ONTARIO MINISTRY OF ENVIRONMENT
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Secci disc-chlorophyll a self-help program. 1977 Sampling results for lakes in the Central Region of the Ministry of the Environment.

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SECCI DISC-CHLOROPHYLL a SELF-HELP PROGRAM

1977 Sampling Results for Lakes in the Central Region of the Ministry of the Environment

Ministry of the Environment

1) Allen Lake, Dudley & Harcourt Twps., Haliburton
2) Balsam Lake, Victoria County
3) Bass Lake, Oro & Orillia Twps., Simco County
4) Beech Lake, Stanhope Twp., Haliburton
5) Belmont Lake, Belmont Twp., Peterborough
6) Big Barnham Lake, Dudley Twp., Haliburton
7) Big Hawk Lake, Stanhope Twp., Haliburton
8) Big Straggle Lake, Harcourt Twp., Haliburton
9) Billings Lake, Glamorgan Twp., Haliburton
10) Birch Bark (Trounce)Lake. Galway Twp., Peterborough
11) Bob Lake, Anson Twp., Haliburton
12) Boshkung Lake, Stanhope Twp., Haliburton
13) Bruce Lake, Twp. of Muskoka Lakes, Muskoka
14) Canning Lake, Minden & Snowdon Twp., Haliburton
15) Catchacoma Lake, Cavendish Twp., Peterborough
16) Chandos Lake, Chandos Twp., Perterborough
17) Clear Lake, Wood Ward, Twp. of Muskoka Lakes, Muskoka
18) Clear Lake, Oakley Ward, Town of Bracebridge, Muskoka
19) Clearwater Lake, Town of Gravenhurst, Muskoka
20) Cordova Lake, Belmont Twp., Peterborough
21) Crego Lake, Somerville Twp., Victoria County
22) Crystal Lake, Galway Twp., Peterborough
23) Davis Lake, Lutterworth Twp., Haliburton
24) Devil's (Lutterworth) Lake, Lutterworth Twp., Haliburton
25) Drag Lake, Dysart et al, Haliburton
26) East Lake, Harcourt Twp., Haliburton
27) Fairy Lake, Town of Huntsville, Muskoka
28) George's Lake, Harcourt Twp., Haliburton
29) Go Home Bay, Twp. of Georgian Bay, Muskoka
30) Go Home Lake, Twp. of Georgian Bay, Muskoka
31) Gull Lake, Lutterworth Twp., Haliburton
32) Haliburton Lake, Harburn Twp., Haliburton
33) Hall's Lake, Stanhope Twp., Haliburton
34) Harp Lake, Town of Huntsville, Muskoka
35) Head Lake, Lexton & Digby Twp., Victoria
36) Horseshoe Lake, Minden Twp., Haliburton
37) Jack Lake, Burleigh and Methuen Twps., Peterborough
38) Kahshe Lake, Town of Gravenhurst, Muskoka
39) Kashagawigamog Lake, Dysart and Minden Twp., Haliburton
40) Kawagama Lake, Haliburton
41) Kennaway Lake, Harcourt Twp., Haliburton
42) Kennibik Lake, Dudley Twp., Haliburton
43) Kennisis Lake, Havelock and Guilford Twps., Haliburton
44) Koshlong Lake, Glamorgan Twp., Haliburton
45) Lake Joseph, Twp. of Muskoka Lakes, Muskoka
46) Lake Muskoka, Twp. of Muskoka Lakes, Muskoka
47) Lake of Bays, Twp. of Lake of Bays, Muskoka
48) Lake Rosseau, Twp. of Muskoka Lakes, Muskoka
49) Lake Vernon, Town of Huntsville, Muskoka
50) Leech Lake, Town of Bracebridge, Muskoka

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SECCI DISC-CHLOROPHYLL a SELF-HELP PROGRAM Cont'd

51) Leonard Lake, Twp. of Muskoka Lakes, Muskoka
52) Little Kennisis Lake, Havelock Twp., Haliburton
53) Little Long Lake, Twp. of Muskoka Lakes, Muskoka
54) Little Straggle Lake, Harcourt Twp., Haliburton
55) Long Lake, Monmouth Twp., Haliburton
56) Long Lake, Twp. of Muskoka Lakes, Muskoka
57) Long Lake, Dudley Twp., Haliburton
58) Looncall Lake, Burleight Twp., Peterborough
59) Mary Lake, Town of Huntsville, Muskoka
60) Medora Lake, Twp. of Moskoka Lakes, Muskoka
61) Miskwabi Lake, Dudley Twp., Haliburton
62) Mississauga Lake, Cavendish & Harvey Twp., Peterborough
63) Muldrew Lake, Town of Gravenhurst, Muskoka
64) Muskoka Bay, Town of Gravenhurst, Muskoka
65) Paudash Lake, Cardiff Twp., Haliburton
66) Peninsula Lake, Twp. of Lake of Bays, Muskoka
67) Pine Lake, Town of Bracebridge, Muskoka
68) Ril Lake, Twp. of Lake of Bays, Muskoka
69) Round Lake, Belmont Twp., Peterborough
70) Salerno Lake, Snowdon and Glamorgan Twp., Haliburton
71) Salmon Lake, Cavendish Twp., Peterborough
72) Shadow Lake, Laxton & Somerville Twp., Victoria
73) Six Mile Lake, Twp. of Georgian Bay, Muskoka
74) Soyers Lake, Minden Twp., Haliburton
75) Stormy Lake, Glamorgan Twp., Haliburton
76) Tallan Lake, Chandos Twp., Peterborough
77) Tock Lake, McClintock Twp., Haliburton
78) Twelve Mile Lake, Minden Twp., Haliburton
79) Walker's Lake, Twp. of Lake of Bays, Muskoka
80) Waseosa Lake, Town of Huntsville, Muskoka
81) Wolf Lake, Anstruther Twp., Peterborough

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ALLEN LAKE

Dudley & Harcourt Swps.
Provisional County of Haliburton

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality
veys from concerned cottagers on many recreational lakes throughout the Province.
vious experience indicated that the enrichment status of a lake can be estimated
atively easily by using Secchi disc readings and chlorophyll a concentrations (the
en pigment in algae) to give an indication of water clarity and algal density re-
ctively. (A more detailed explanation is provided in the publication on Eutrophication,
ch may be obtained from the address listed below). Volunteers are supplied with
pling kits, which includes a Secchi disc, a water sampler, bottles and instructions.
ticipants are asked to take Secchi disc readings and collect water samples biweekly
ing the ice-free period of the year. The water samples are shipped to the nearest
istry of the Environment laboratory facilities where they are analyzed for chlorophyll
The true value of the programme is only realized if it is continued for a number of
rs in order to define longterm trends.

ed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
bloured lakes have been grouped into approximate ranges to indicate the status of
ichment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
iched	0-3 m	high algal densities	4 ug/l or more
erately enriched	3-5 m	moderate algal densities	2-4 ug/l
nriched	5 m or more	low algal densities	0-2 ug/l

e 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Allen Lake

	Stn. - Main	
	S.D.	Chloro. a
23	7.5	
3	4.5	
10	5.5	
17	5.0	
7	6.0	
14	5.5	
21	5.5	
28	5.0	
	5.6	

The filters used in chlorophyll a analysis caused a problem, which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings varied from 4.5 to 7.5 meters, and averaged 5.6 meters for the sampling period; indicating a high degree of water transparency. Based on the seasonal average for this parameter, Allen Lake would be considered an unenriched lake.

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Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Allen Lake from 1973 to 1977

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973	4.7	1.3
1974	4.9	1.2
1975	5.6	1.8
1976	5.3	1.8
1977	5.6	
"		

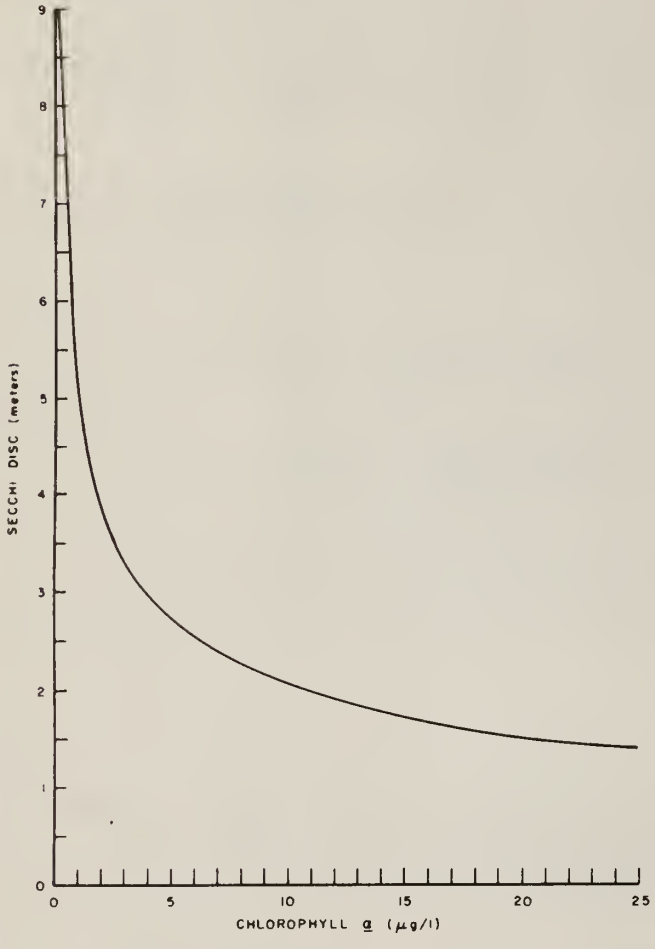

Figure 1: The relationship between Secchi disc and chlorophyll a for Allen Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Since the initiation of this program on Allen Lake in 1973, there has been an overa increase in the average yearly Secchi disc reading, from 4.7 meters to 5.6 meters i 1977. Continued participation in this program is required to determine whether the quality of the lake will remain at its present levle, improve, or deline to its previous level, as characterized by the yearly average Secchi disc reading.

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Ontario

Ministry of the Environment

BALSAM LAKE

Victoria County

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

e "Self-Help Programme" was initiated in 1971 in response to requests for water quality rveys from concerned cottagers on many recreational lakes throughout the Province. evious experience indicated that the enrichment status of a lake can be estimated latively easily by using Secchi disc readings and chlorophyll a concentrations (the een pigment in algae) to give an indication of water clarity and algal density re- ectively. (A more detailed explanation is provided in the publication on Eutrophication, ich may be obtained from the address listed below). Volunteers are supplied with mpling kits, which includes a Secchi disc, a water sampler, bottles and instructions. rticipants are asked to take Secchi disc readings and collect water samples biweekly ring the ice-free period of the year. The water samples are shipped to the nearest nistry of the Environment laboratory facilities where they are analyzed for chlorophyll The true value of the programme is only realized if it is continued for a number of ars in order to define longterm trends.

sed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in coloured lakes have been grouped into approximate ranges to indicate the status of richment.

	Secchi disc (S.D.) (meters - m)	Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
riched	0-3 m	high algal densities	4 ug/l or more
derately enriched	3-5 m	moderate algal densities	2-4 ug/l
enriched	5 m or more	low algal densities	0-2 ug/l

ble 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Balsam Lake

te	North Bay Stn. S.D.	South Bay Stn. S.D.	Coboconk Bay Stn. S.D.	West Bay Stn. S.D.
y 23	5.2	2.0	3.5	
y 29		2.0		
n 5	7.3	3.0		
n 19	4.0	3.0		
n 25	4.5	2.0		
l 3	3.5		2.5	
l 10		4.5		4.5
l 17				5.3
24	3.5	2.5		4.8
l 31	4.0			4.8
g 7		4.0		5.8
g 14	4.3			5.0
g 21				4.8
g 28	4.5	2.0		7.5
p 5	___	4.0	___	5.8
an	4.5	2.9		5.4

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

Based on the mean seasonal Secchi disc reading, the West Bay would be considered unenriched, characterized by a high degree of water transparency; the North Bay would be considered moderately enriched, characterized by a moderately high degree of water transparency, and the South Bay would be considered enriched, characterized by a low degree of water transparency.

Insufficient data was collected from Coboconk Bay to allow a meaningful conclusion to be reached..

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Balsam Lake in 1977.

Year	Stn. - North Bay S.D.	Chloro. a	Stn. - South Bay S.D.	Stn. - West Bay S.D.
1971				
1972				
1973				
1974				
1975				
1976				
1977	4.5		2.9	5.4
"				

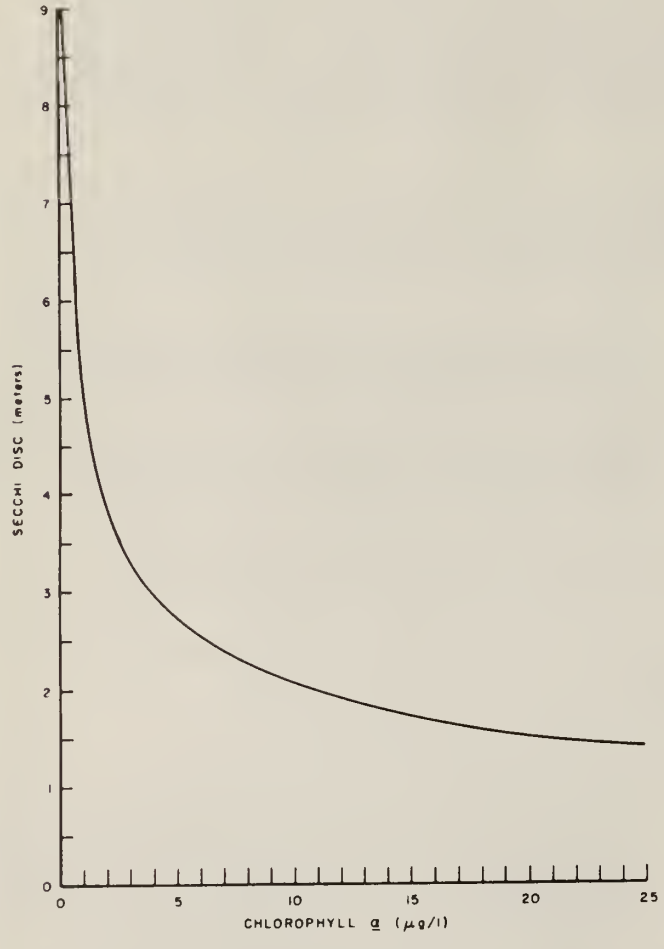

Figure 1: The relationship between Secchi disc and chlorophyll a for Balsam Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

It is recommended that participation in this program be continued in order that sufficient data may be obtained to define any long-term water quality trends on Balsam Lake.

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Ministry of the Environment

BASS LAKE

Oro & Orillia Twps.,
Simcoe County

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

e "Self-Help Programme" was initiated in 1971 in response to requests for water quality rveys from concerned cottagers on many recreational lakes throughout the Province. evious experience indicated that the enrichment status of a lake can be estimated latively easily by using Secchi disc readings and chlorophyll a concentrations (the een pigment in algae) to give an indication of water clarity and algal density re- ectively. (A more detailed explanation is provided in the publication on Eutrophication, ich may be obtained from the address listed below). Volunteers are supplied with mpling kits, which includes a Secchi disc, a water sampler, bottles and instructions. rticipants are asked to take Secchi disc readings and collect water samples biweekly ring the ice-free period of the year. The water samples are shipped to the nearest inistry of the Environment laboratory facilities where they are analyzed for chlorophyll . The true value of the programme is only realized if it is continued for a number of ars in order to define longterm trends.

sed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in coloured lakes have been grouped into approximate ranges to indicate the status of richment.

	Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
riched	0-3 m		high algal densities	4 ug/l or more
derately enriched	3-5 m		moderate algal densities	2-4 ug/l
enriched	5 m or more		low algal densities	0-2 ug/l

ble 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Bass Lake

te	Stn. - Main S.D.	Chloro. a
y	24	2.3
n	9	2.2
n	22	1.8
l	5	3.0
l	19	1.8
g	3	2.0
g	18	2.5
g	28	2.0
p	12	1.5
t	6	1.8
an		5.6

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings varied from 1.8 meters to 3.0 meters and exhibited no trends during the sampling period. The average seasonal Secchi disc reading of 2.1 meters indicates a low degree of transparency and reflects the enriched status of Bass Lake.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Bass Lake from 1973 to 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973	2.2	2.6
1974	2.0	2.4 (1.6m., 6.4 ug/l)*
1975	1.9	6.5
1976	2.0	4.8
1977	2.1	

*MOE data

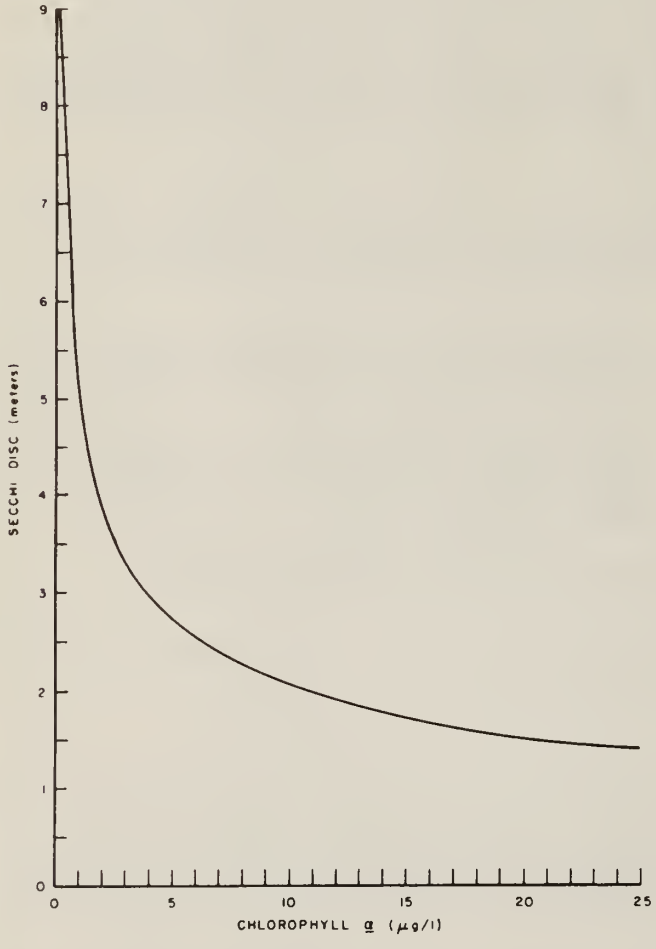

Figure 1: The relationship between Secchi disc and chlorophyll a for Bass Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Since commencement of this program on Bass Lake in 1973, the average seasonal Secch disc reading has remained constant. This lack of variation is primarily attributab to wind induced turbidity. The chlorophyll a concentration has varied significantl in previous years, and it is recommended that this program be continued, to monitor these changes.

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Ministry of the Environment

BEECH LAKE

Stanhope Twp., Provisional
County of Haliburton.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

e "Self-Help Programme" was initiated in 1971 in response to requests for water quality rveys from concerned cottagers on many recreational lakes throughout the Province. evious experience indicated that the enrichment status of a lake can be estimated latively easily by using Secchi disc readings and chlorophyll a concentrations (the een pigment in algae) to give an indication of water clarity and algal density re- ectively. (A more detailed explanation is provided in the publication on Eutrophication, ich may be obtained from the address listed below). Volunteers are supplied with mpling kits, which includes a Secchi disc, a water sampler, bottles and instructions. rticipants are asked to take Secchi disc readings and collect water samples biweekly ring the ice-free period of the year. The water samples are shipped to the nearest inistry of the Environment laboratory facilities where they are analyzed for chlorophyll The true value of the programme is only realized if it is continued for a number of ars in order to define longterm trends.

sed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in coloured lakes have been grouped into approximate ranges to indicate the status of richment.

	Secchi disc (S.D.) (meters - m)	Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l
riched	0-3 m	high algal densities 4 ug/l or more
derately enriched	3-5 m	moderate algal densities 2-4 ug/l
enriched	5 m or more	low algal densities 0-2 ug/l

ble 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Beech Lake

te	Stn. - Main S.D.	Chloro. a
l 24	5.3	
g 1	4.0	
g 14	5.0	
	5.8	
p 4	6.5	
an	5.3	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc reading varied from 4.0 to 6.5 meters during the sampling period, and no trend is apparent. Based on the seasonal mean for this parameter of 5.3 meters, Beech Lake would be considered unenriched, characterized by a high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Beech Lake in 1976 and 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973		
1974		
1975		
1976	5.3	1.9
1977	5.3	
"		

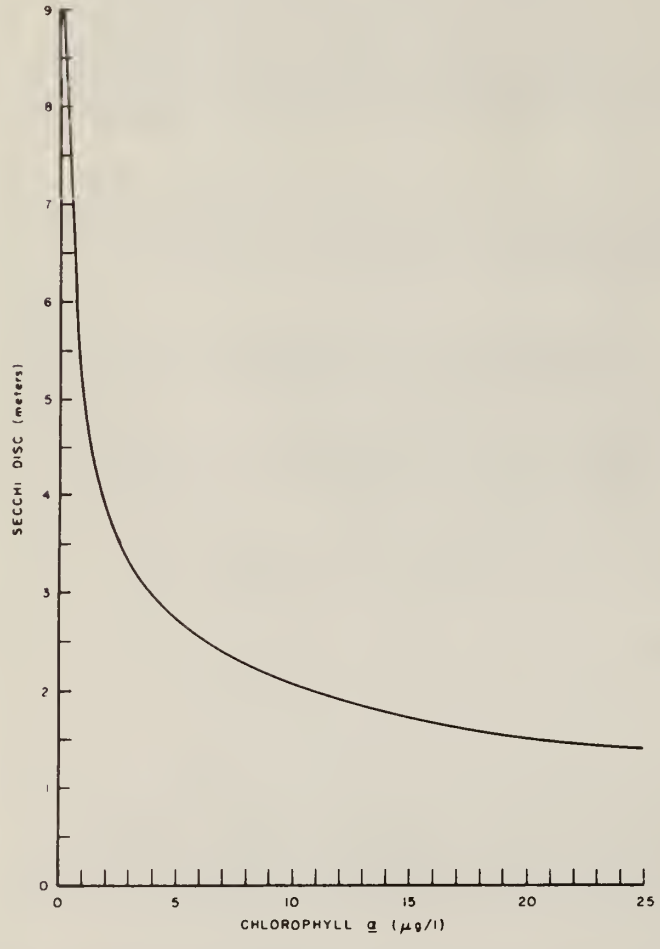

Figure 1: The relationship between Secchi disc and chlorophyll a for Beech Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The mean seasonal Secchi disc reading has remained constant for the two years this program has been conducted on Beech Lake, indicating a stable lake condition. It is recommended that participation in this program be continued to ensure this condition persists.

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Ministry of the Environment

BELMONT LAKE
Belmont Twp., Peterborough County

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

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sed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in coloured lakes have been grouped into approximate ranges to indicate the status of richment.

	Secchi disc (S.D.) (meters - m)	Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l
riched	0-3 m	high algal densities 4 ug/l or more
derately enriched	3-5 m	moderate algal densities 2-4 ug/l
enriched	5 m or more	low algal densities 0-2 ug/l

ble 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Belmont Lake

te	Stn. S.D.	Main Chloro. a
y 31	5.0	
ne 7	5.5	
ne 14	5.5	
ne 19	5.5	
ne 28	5.0	
ly 5	5.0	
ly 14	5.0	
ly 18	5.0	
ly 26	5.5	
g. 2	5.0	
g. 8	6.0	
g. 15	6.0	
g. 21	5.5	
g. 30	5.0	
pt. 6	5.0	
pt. 12	5.0	
pt. 19	5.0	
an	5.3	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc reading exhibited only minor fluctuations during the sampling period, varying from 5.0 to 6.0 meters and averaged 5.3 meters, indicating a high degree of water transparency. Based on the seasonal mean for this parameter, Belmont Lake would be considered unenriched.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Belmont Lake from 1972 to 1977.

Year	Stn. S.D.	Main Chloro. a
1971		
1972	3.7	1.3
1973	-	-
1974	4.3	1.2
1975	4.0	2.2
1976	4.1	1.8
1977	5.3	

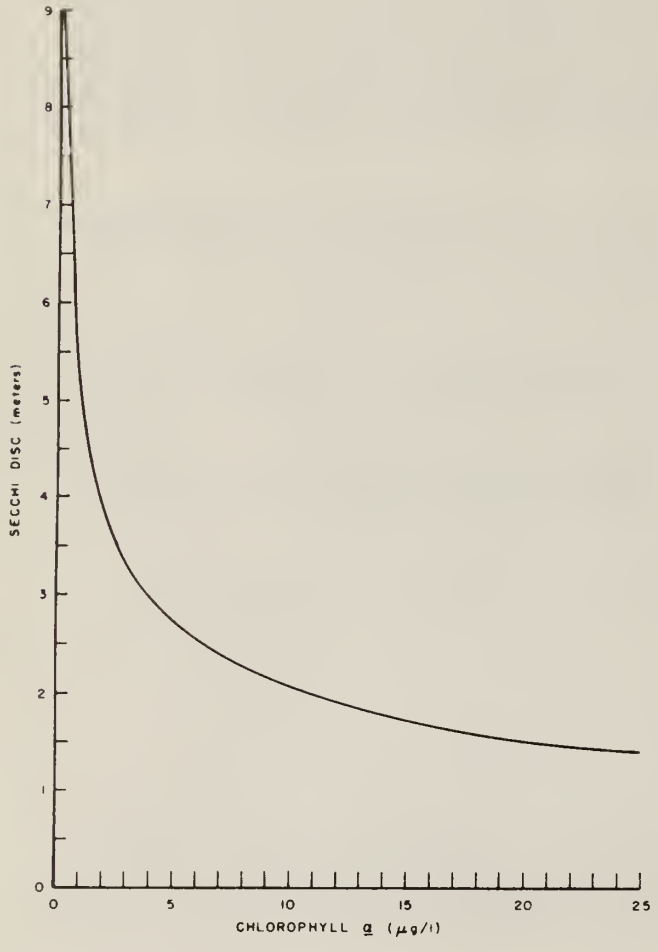

Figure 1: The relationship between Secchi disc and chlorophyll a for Belmont Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Prior to 1977 the average yearly Secchi disc readings remained relatively constant, varying from 3.7 to 4.3 meters. Secchi disc readings of this magnitude are characteristic of a moderately enriched lake. However, the average yearly Secchi disc reading increased to 5.3 meters in 1977, indicative of an unenriched lake. It is recommended that participation in this program be continued to determine if there has been an improvement in the quality of Belmont Lake, or if the increased transparency in 1977 was due to natural fluctuations.

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Ontario

BIG BARNHAM LAKE
Dudley Twp., Provincial
County of Haliburton

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

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sed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in coloured lakes have been grouped into approximate ranges to indicate the status of richment.

	Secchi disc (S.D.) (meters - m)	Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
riched	0-3 m	high algal densities	4 ug/l or more
derately enriched	3-5 m	moderate algal densities	2-4 ug/l
enriched	5 m or more	low algal densities	0-2 ug/l

ble 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Big Barnham Lake

te	Stn. S.D.	Main Chloro. a
ly 3	6.5	
ly 10	7.5	
g. 1	7.5	
g. 7	5.5	
g. 14	5.2	
g. 28	5.2	
pt. 5	4.9	
pt. 11	5.5	
an	6.0	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings varied from 4.9 to 7.5 meters during the sampling period, and exhibited a steady decrease throughout the month of August. The season average of 6.0 meters indicates a high degree of transparency, characteristic of an unenriched lake.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Big Barnham Lake from 1975 to 1977.

Year	Stn. S.D.	Main Chloro. a
1971		
1972		
1973		
1974		
1975	5.5	1.6
1976	4.7	4.0
1977	6.0	

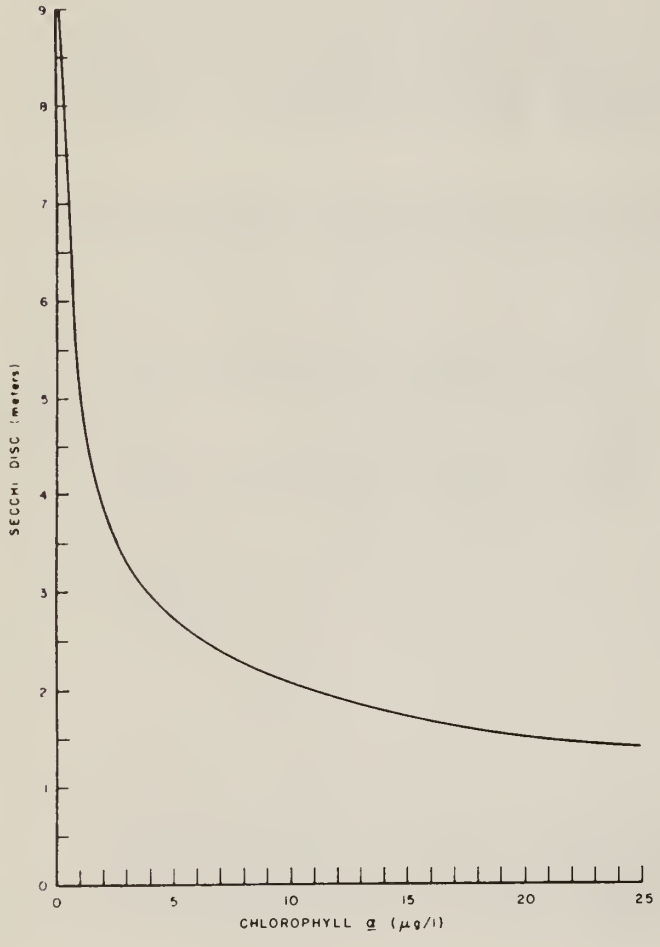

Figure 1: The relationship between Secchi disc and chlorophyll a for Big Barnham Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

During the three years that sampling has been conducted on Big Barnham Lake the seasonal Secchi disc readings have exhibited considerable variation. The existing data is insufficient to indicate if there is any trend to these variations, and it is recommende that participation in this program be continued.

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Ontario

BIG HAWK LAKE
Stanhope Twp., Provisional
County of Haliburton

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

e "Self-Help Programme" was initiated in 1971 in response to requests for water quality
rveys from concerned cottagers on many recreational lakes throughout the Province.
evious experience indicated that the enrichment status of a lake can be estimated
latively easily by using Secchi disc readings and chlorophyll a concentrations (the
een pigment in algae) to give an indication of water clarity and algal density re-
ectively. (A more detailed explanation is provided in the publication on Eutrophication,
ich may be obtained from the address listed below). Volunteers are supplied with
mpling kits, which includes a Secchi disc, a water sampler, bottles and instructions.
rticipants are asked to take Secchi disc readings and collect water samples biweekly
ring the ice-free period of the year. The water samples are shipped to the nearest
inistry of the Environment laboratory facilities where they are analyzed for chlorophyll
The true value of the programme is only realized if it is continued for a number of
ars in order to define longterm trends.

sed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
coloured lakes have been grouped into approximate ranges to indicate the status of
richment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
riched	0-3 m	high algal densities	4 ug/l or more
derately enriched	3-5 m	moderate algal densities	2-4 ug/l
enriched	5 m or more	low algal densities	0-2 ug/l

ble 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Big Hawk Lake

te	Stn. S.D.	Main Chloro. a
y 23	8.4	
ne 5	7.8	
ne 19	5.0	
ne 26	8.0	
ly 9	7.5	
ly 17	9.5	
ly 24	7.8	
g. 7	7.0	
g. 14	8.0	
g. 21	7.0	
pt. 5	8.9	
an	7.7	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

Although the Secchi disc readings fluctuated from 5.0 to 9.5 meters during the sampling period, no trends are apparent. Based on the season average for this parameter, Big Hawk Lake would be considered unenriched, characterized by a very high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Big Hawk Lake from 1972 to 1977.

Year	Stn. S.D.	Main Chloro. a
1971		
1972	6.3	0.8
1973	7.2	1.0
1974	6.9	0.7
1975	7.0	1.2
1976	6.8	1.1
1977	7.7	

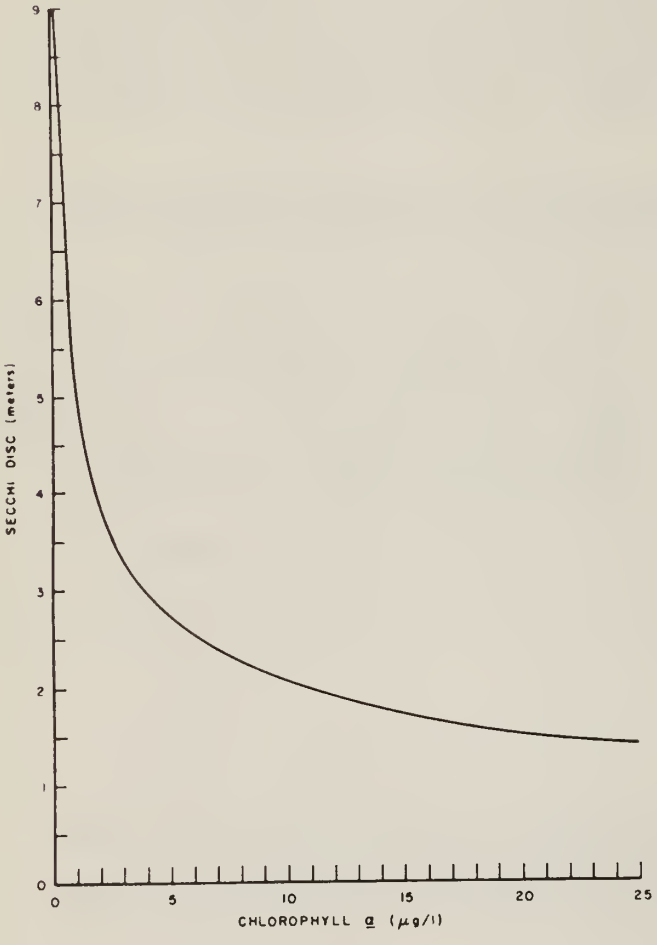

Figure 1: The relationship between Secchi disc and chlorophyll a for Big Hawk Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The average seasonal Secchi disc reading, which had remained relatively constant during the four previous years (1973-76) exhibited a marked increase in 1977. This increase is even more apparent when 1972 average value for this parameter is compared to the 1977 value. Based on the data available, it would appear that an improvement in lake quality has occurred since commencement of this program. It is recommended that participation in this program be continued to determine if this trend will continue.

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Ontario

Ministry of the Environment

BIG STRAGGLE LAKE

Harcourt Twp., Provisional
County of Haliburton.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

le "Self-Help Programme" was initiated in 1971 in response to requests for water quality rveys from concerned cottagers on many recreational lakes throughout the Province. evious experience indicated that the enrichment status of a lake can be estimated latively easily by using Secchi disc readings and chlorophyll a concentrations (the een pigment in algae) to give an indication of water clarity and algal density re- ectively. (A more detailed explanation is provided in the publication on Eutrophication, ich may be obtained from the address listed below). Volunteers are supplied with mpling kits, which includes a Secchi disc, a water sampler, bottles and instructions. rticipants are asked to take Secchi disc readings and collect water samples biweekly ring the ice-free period of the year. The water samples are shipped to the nearest inistry of the Environment laboratory facilities where they are analyzed for chlorophyll The true value of the programme is only realized if it is continued for a number of ars in order to define longterm trends.

sed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in coloured lakes have been grouped into approximate ranges to indicate the status of richment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
riched	0-3 m	high algal densities	4 ug/l or more
derately enriched	3-5 m	moderate algal densities	2-4 ug/l
enriched	5 m or more	low algal densities	0-2 ug/l

ble 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Big Straggle Lake

ce	Stn. - Main S.D.	Chloro. a
y 23	3.8	
n 5	5.0	
n 12	5.5	
n 19	6.5	
n 26	5.0	
l 10	5.0	
l 17	6.0	
l 24	6.0	
g 1	5.0	
g 7	5.5	
g 14	5.0	
g 21	5.5	
g 28	6.0	
p 5	7.0	
p 11	7.0	
p 25	6.0	
an	5.7	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

Although the Secchi disc reading varied from 4.8 to 7.0 meters during the sampling period, no trends are apparent. Based on the season average of 5.7 meters, Big Straggle Lake would be considered unenriched, characterized by a high detree of water transparency.

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Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Big Straggle Lake from 1971 to 1977.

Year	Stn. - Main S.D.	Chloro. a
1971	3.8	2.1
1972	-	-
1973	4.6	4.0
1974	4.8	1.4
1975	6.0	1.7
1976	4.5	1.8
1977	5.7	

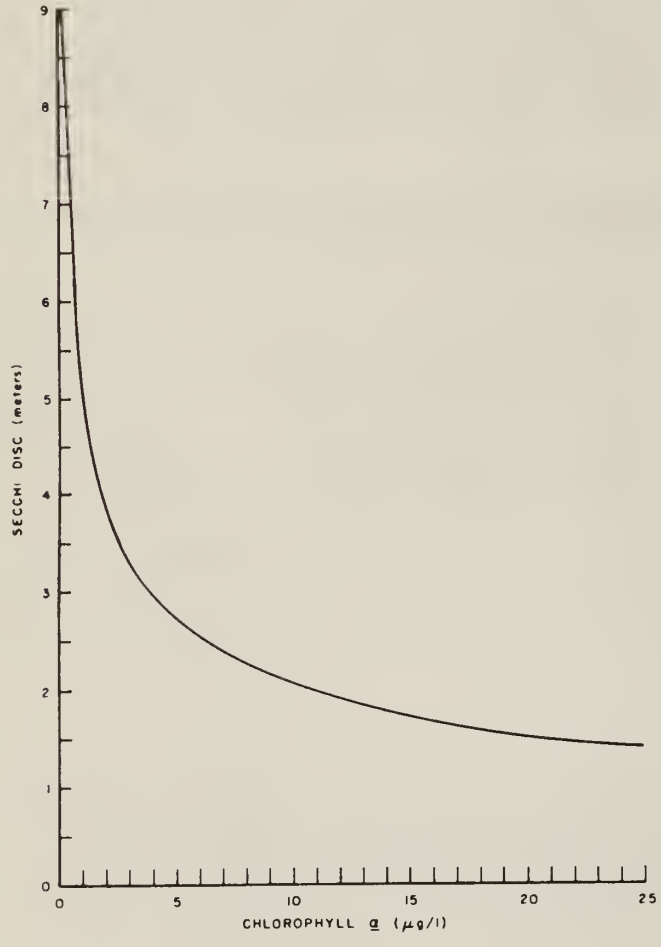

Figure 1: The relationship between Secchi disc and chlorophyll a for Big Straggle Lal and a number of other well-known recreational lakes in the province. All data are seasonal means.

Between 1971 and 1975 the average seasonal Secchi disc reading progressively increase however in 1976 it declined to the 1973 level. Although the 1977 seasonal average again increased, it is not possible to predict whether this trend will continue, or if the lake will stablize at its present level, or if another decline will occur. Continued participation in the program is recommended to establish any long-term trends in the lake quality.

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Ministry of the Environment

BILLINGS LAKE

Glamorgan Twp., Provisional
County of Haliburton.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

e "Self-Help Programme" was initiated in 1971 in response to requests for water quality rveys from concerned cottagers on many recreational lakes throughout the Province. evious experience indicated that the enrichment status of a lake can be estimated latively easily by using Secchi disc readings and chlorophyll a concentrations (the een pigment in algae) to give an indication of water clarity and algal density re- ectively. (A more detailed explanation is provided in the publication on Eutrophication, ich may be obtained from the address listed below). Volunteers are supplied with mpling kits, which includes a Secchi disc, a water sampler, bottles and instructions. rticipants are asked to take Secchi disc readings and collect water samples biweekly ring the ice-free period of the year. The water samples are shipped to the nearest inistry of the Environment laboratory facilities where they are analyzed for chlorophyll . The true value of the programme is only realized if it is continued for a number of ars in order to define longterm trends.

ed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in oloured lakes have been grouped into approximate ranges to indicate the status of richment.

	Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
riched	0-3 m	high algal densities	4 ug/l or more
derately enriched	3-5 m	moderate algal densities	2-4 ug/l
nriched	5 m or more	low algal densities	0-2 ug/l

le 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Billings Lake

e	Stn. - Main S.D.	Chloro. a
23	7.4	
6	7.8	
12	7.5	
26	6.0	
10	7.0	
17	9.0	
24	6.0	
7	8.0	
28	5.8	
n	7.2	

The filters in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

Although the Secchi disc readings varied from 5.8 to 9.0 meters during the sampling period, no trends are apparent. Based on the seasonal average of 7.2 meters, Billings Lake would be considered unenriched, characterized by a very high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Billings Lake from 1973 to 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973	6.7	1.0
1974	6.5	0.7
1975	6.7	1.2
1976	7.3	1.2
1977	7.2	

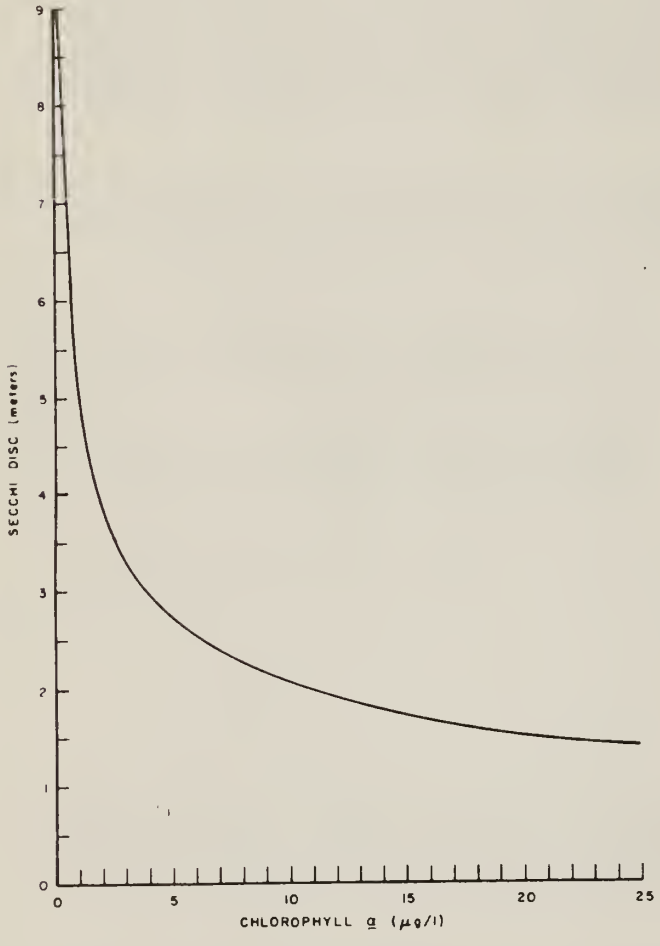

Figure 1: The relationship between Secchi disc and chlorophyll a for Billings Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Since the commencement of this program on Billings Lake in 1973, the seasonal averae Secchi disc reading has remained relatively constant, indicating a stable lake condt Continued participation in the program is required to determine if this condition persists.

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Ontario

Ministry of the Environment

BIRCH BARK (Trounce) LAKE

Galway Twp., Peterborough County

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality rveys from concerned cottagers on many recreational lakes throughout the Province. evious experience indicated that the enrichment status of a lake can be estimated latively easily by using Secchi disc readings and chlorophyll a concentrations (the een pigment in algae) to give an indication of water clarity and algal density re- ectively. (A more detailed explanation is provided in the publication on Eutrophication, ich may be obtained from the address listed below). Volunteers are supplied with mpling kits, which includes a Secchi disc, a water sampler, bottles and instructions. rticipants are asked to take Secchi disc readings and collect water samples biweekly ring the ice-free period of the year. The water samples are shipped to the nearest inistry of the Environment laboratory facilities where they are analyzed for chlorophyll The true value of the programme is only realized if it is continued for a number of ars in order to define longterm trends.

sed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in coloured lakes have been grouped into approximate ranges to indicate the status of richment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
riched	0-3 m	high algal densities	4 ug/l or more
derately enriched	3-5 m	moderate algal densities	2-4 ug/l
enriched	5 m or more	low algal densities	0-2 ug/l

ble 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Birch Bark Lake

te	Stn. - Main S.D.	Chloro. a
n 12	5.4	
n 26	5.8	
l 3	4.4	
l 10	5.5	
l 17	4.3	
g 1	4.0	
g 7	4.3	
g 14	5.2	
g 28	4.0	
p 5	5.0	
t 9	5.0	
an	4.8	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings varied from 4.0 to 5.8 meters during the sampling period and no trend was apparent. Based on the seasonal mean for this parameter, Birch Bark Lake would be considered moderately enriched, characterized by a moderately high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Birch Bark Lake.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973		
1974		
1975		
1976		
1977	4.8	
"		

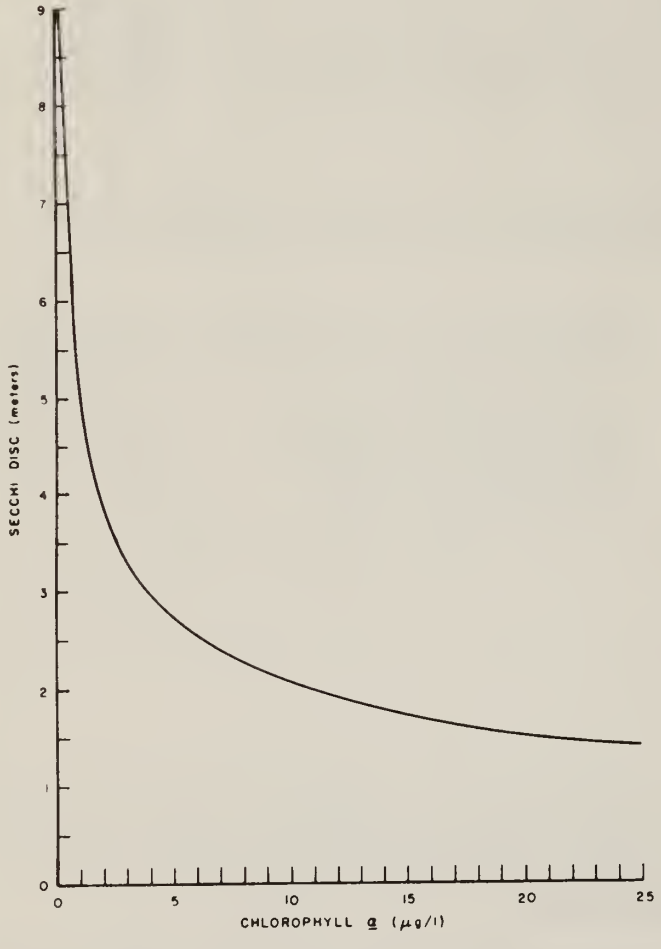

Figure 1: The relationship between Secchi disc and chlorophyll a for Birch Bark Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

It is recommended that participation in this program be continued to define any long-term trends in water quality on Birch Bark Lake.

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Ontario

Ministry of the Environment

BOB LAKE

Anson Twp., Provisional
County of Haliburton.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

e "Self-Help Programme" was initiated in 1971 in response to requests for water quality rveys from concerned cottagers on many recreational lakes throughout the Province. evious experience indicated that the enrichment status of a lake can be estimated latively easily by using Secchi disc readings and chlorophyll a concentrations (the een pigment in algae) to give an indication of water clarity and algal density re- ectively. (A more detailed explanation is provided in the publication on Eutrophication, ich may be obtained from the address listed below). Volunteers are supplied with mpling kits, which includes a Secchi disc, a water sampler, bottles and instructions. rticipants are asked to take Secchi disc readings and collect water samples biweekly ring the ice-free period of the year. The water samples are shipped to the nearest inistry of the Environment laboratory facilities where they are analyzed for chlorophyll The true value of the programme is only realized if it is continued for a number of ars in order to define longterm trends.

sed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in coloured lakes have been grouped into approximate ranges to indicate the status of richment.

	Secchi disc (S.D.) (meters - m)	Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l
riched	0-3 m	high algal densities 4 ug/l or more
derately enriched	3-5 m	moderate algal densities 2-4 ug/l
enriched	5 m or more	low algal densities 0-2 ug/l

ble 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Bob Lake

te	Stn. - Main S.D.	Chloro. a
l	3	2.8
g	1	6.5
g	14	4.5
p	4	4.6
an		4.6

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

Since measurements were taken on only four occasions in 1977, it is difficult to obtain even a reasonably accurate estimate of the trophic status of Bob Lake. Based on the seasonal mean Secchi disc reading, Bob Lake would be considered moderately enriched, characterized by a moderately high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Bob Lake from 1972 to 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972	5.9	1.2 **
1973	5.2	2.4 *
1974	4.8	1.9 *
1975	5.4	2.9
1976	5.5	2.2
1977	4.6	
"		

** from Dillon, 1974
* based on one set of data only

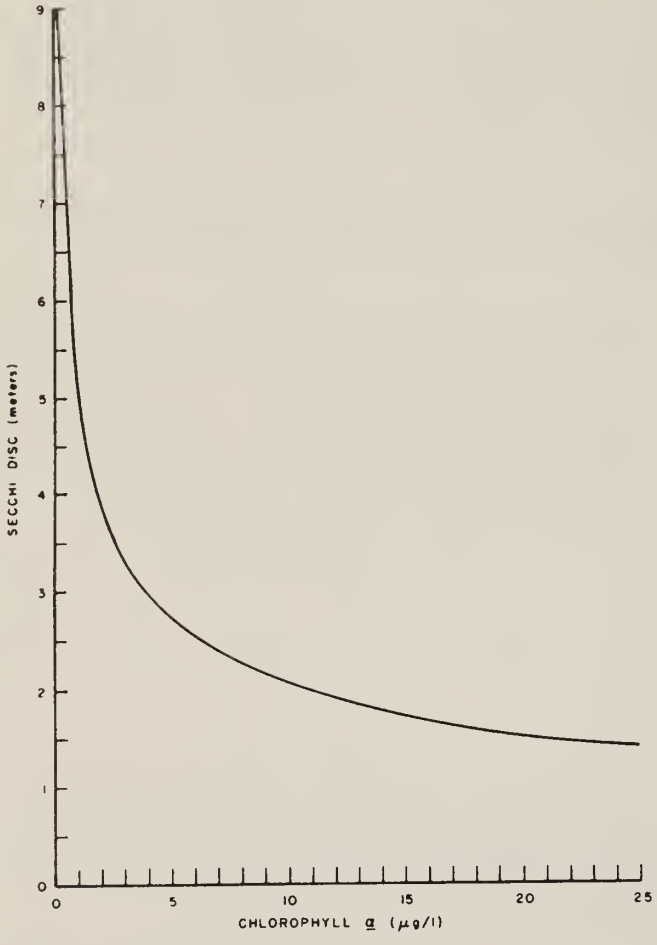

Figure 1: The relationship between Secchi disc and chlorophyll a for Bob Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The yearly variations in the mean seasonal Secchi disc reading are primarily attributable to natural fluctuations, and do not represent an alteration in lake quality. It is recommended that participation in this program to be continued to ensure that the stable status of Bob Lake persists.

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Ministry of the Environment

BOSHKUNG LAKE

Stanhope Twp., Provisional
County of Haliburton.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality veys from concerned cottagers on many recreational lakes throughout the Province. evious experience indicated that the enrichment status of a lake can be estimated atively easily by using Secchi disc readings and chlorophyll a concentrations (the en pigment in algae) to give an indication of water clarity and algal density re- ctively. (A more detailed explanation is provided in the publication on Eutrophication, ch may be obtained from the address listed below). Volunteers are supplied with pling kits, which includes a Secchi disc, a water sampler, bottles and instructions. ticipants are asked to take Secchi disc readings and collect water samples biweekly ing the ice-free period of the year. The water samples are shipped to the nearest istry of the Environment laboratory facilities where they are analyzed for chlorophyll The true value of the programme is only realized if it is continued for a number of rs in order to define longterm trends.

ed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in oloured lakes have been grouped into approximate ranges to indicate the status of richment.

	Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
riched	0-3 m		high algal densities	4 ug/l or more
derately enriched	3-5 m		moderate algal densities	2-4 ug/l
nriched	5 m or more		low algal densities	0-2 ug/l

le 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Boshkung Lake

e	Stn. - Main S.D.	Chloro. a
26	8.0	
3	6.8	
18	7.0	
24	5.4	
14	6.0	
28	6.7	
11	6.7	
n	6.6	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings varied from 5.4 to 8.0 meters during the sampling period, with the highest measurement of water transparency occurring in June. Based on the seasonal mean for this parameter of 6.6 meters, Boshkung Lake would be considered unenriched characterized by a very high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Boshkung Lake from 1972 to 1977.

Year	Stn.- S.D.	Main Chloro. a
1971		
1972	5.6	0.9
1973	5.6	2.0
1974	-	0.9
1975	5.2	1.4
1976	-	-
1977	6.6	
"		

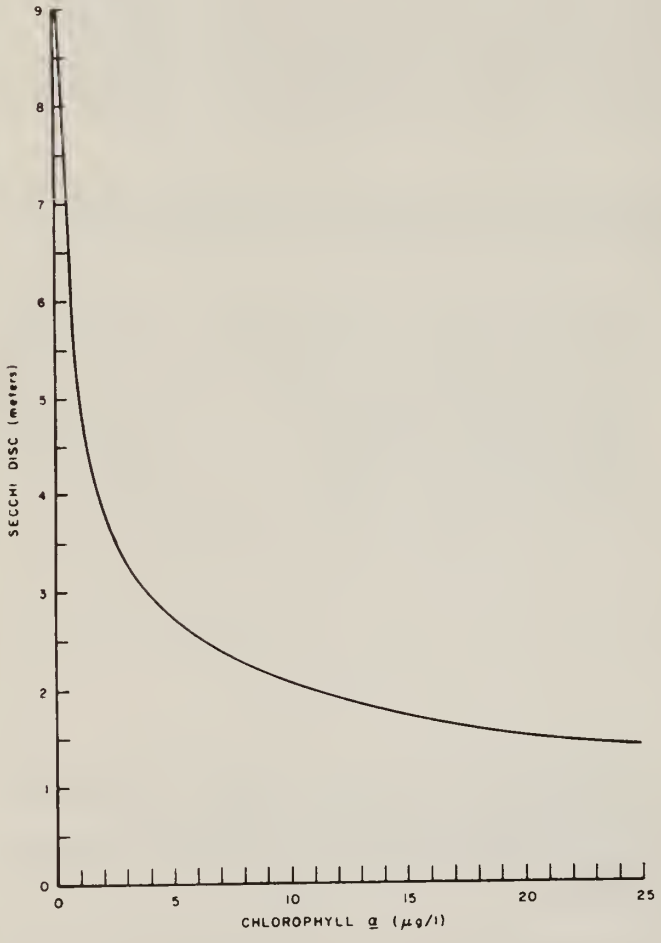

Figure 1: The relationship between Secchi disc and chlorophyll a for Boshkung Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Whether the increased water transparency from 1975 to 1977 is due to natural fluctu or represents and improvement in water quality cannot be determined from the availa data. It is strongly recommended that participation in this program be continued t determine what long-term trends in lake quality will develop.

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Ontario

Ministry of the Environment

BRUCE LAKE

Twp. of Muskoka Lakes,
District Municipality
of Muskoka.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality rveys from concerned cottagers on many recreational lakes throughout the Province. vious experience indicated that the enrichment status of a lake can be estimated atively easily by using Secchi disc readings and chlorophyll a concentrations (the en pigment in algae) to give an indication of water clarity and algal density re- ctively. (A more detailed explanation is provided in the publication on Eutrophication, ch may be obtained from the address listed below). Volunteers are supplied with pling kits, which includes a Secchi disc, a water sampler, bottles and instructions. ticipants are asked to take Secchi disc readings and collect water samples biweekly ing the ice-free period of the year. The water samples are shipped to the nearest istry of the Environment laboratory facilities where they are analyzed for chlorophyll The true value of the programme is only realized if it is continued for a number of rs in order to define longterm trends.

ed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in oloured lakes have been grouped into approximate ranges to indicate the status of ichment.

	Secchi disc (S.D.) (meters - m)	Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l
iched	0-3 m	high algal densities 4 ug/l or more
erately enriched	3-5 m	moderate algal densities 2-4 ug/l
nriched	5 m or more	low algal densities 0-2 ug/l

le 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Bruce Lake

e	Stn. S.D.	Chloro. a
19	2.3	
3	2.3	
17	1.5	
1	1.3	
14	1.5	
n	1.8	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

Due to the physical characteristics of Bruce Lake, it is not possible to accurately assess the lake's trophic status solely on the basis of Secchi disc readings. Based on previously collected M.O.E. water quality data, Bruce Lake would be considered moderately enriched, characterized by a moderate to poor degree of water transparency.

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Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Bruce Lake in 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973		
1974		
1975		
1976		
1977	1.8	
"		

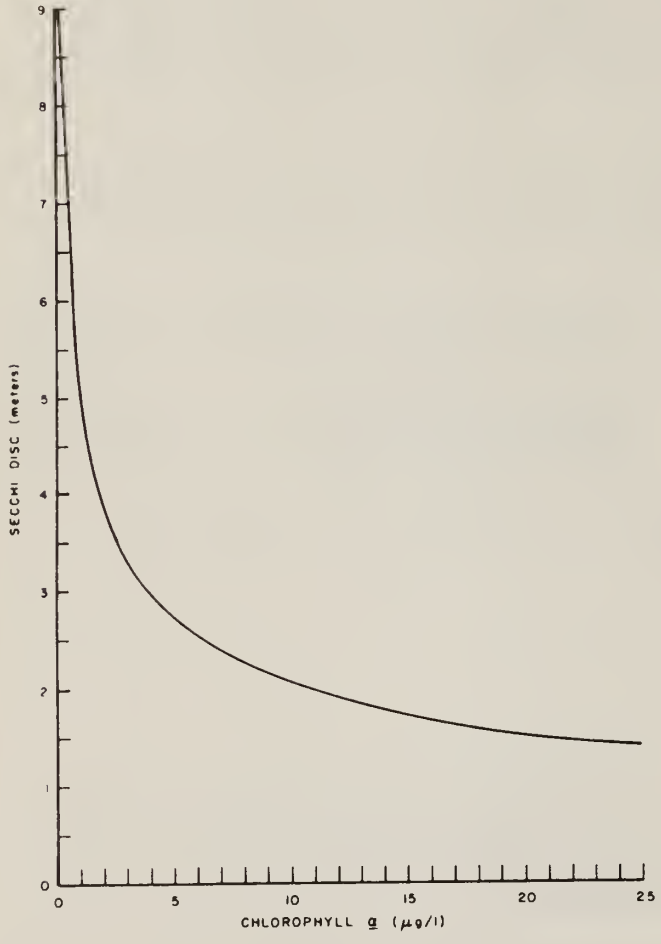

Figure 1: The relationship between Secchi disc and chlorophyll a for Bruce Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Due to the absence of chlorophyll a data it is not possible to plot Bruce Lake on te above curve, to determine its enrichment status relative to other Southern Ontario lakes. Continued participation in this program will enable a more accurate assessm of the lake's tropic status to be made, and long-term lake-trends to be monitored.

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Ontario

Ministry of the Environment

CANNING LAKE

Minden & Snowdon Twp., Provisional
County of Haliburton.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality
rveys from concerned cottagers on many recreational lakes throughout the Province.
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The true value of the programme is only realized if it is continued for a number of
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oloured lakes have been grouped into approximate ranges to indicate the status of
ichment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
iched	0-3 m	high algal densities	4 ug/l or more
erately enriched	3-5 m	moderate algal densities	2-4 ug/l
nriched	5 m or more	low algal densities	0-2 ug/l

le 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Canning Lake.

	Stn. - Main	
e	S.D.	Chloro. a
23	5.8	
29	6.0	
5	6.0	
19	4.5	
3	5.5	
10	-	
17	4.8	
24	5.5	
1	4.0	
7	6.0	
14	6.0	
21	5.5	
28	5.5	
5	6.0	
n	5.5	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

Although the Secchi disc readings varied from 4.0 to 6.0 meters during the sampling period, no trends are apparent. Based on the season average for this parameter of 5.5 meters, Canning Lake would be considered unenriched, characterized by a high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Canning Lake from 1972 to 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972	4.6	3.0
1973	5.6	1.8
1974	4.8	1.6
1975	4.9	1.6
1976	5.6	1.9
1977	5.5	
"		

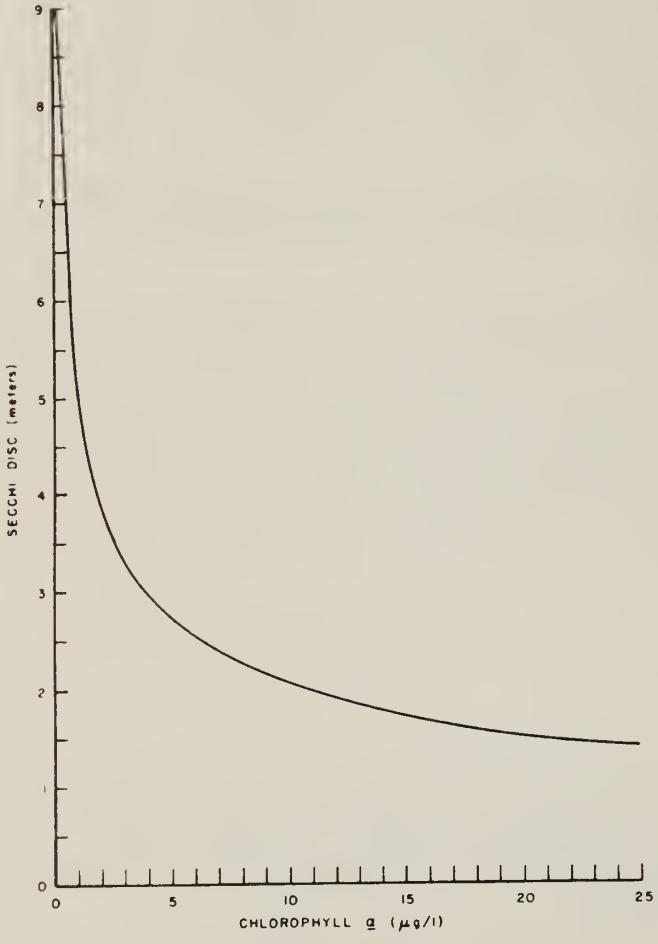

Figure 1: The relationship between Secchi disc and chlorophyll a for Canning Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Since commencement of this program on Canning Lake in 1972, the average seasonal Secchi disc reading has remained relatively contstant; the variations that have occurred are probably due to natural fluctuations. The data collected to date, indicates a stable lake condition, but this program should be continued to ensure this condition persists.

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Ministry of the Environment

CATCHACOMA LAKE

Cavendish Twp., Peterborough County

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

e "Self-Help Programme" was initiated in 1971 in response to requests for water quality rveys from concerned cottagers on many recreational lakes throughout the Province. evious experience indicated that the enrichment status of a lake can be estimated latively easily by using Secchi disc readings and chlorophyll a concentrations (the een pigment in algae) to give an indication of water clarity and algal density re- ectively. (A more detailed explanation is provided in the publication on Eutrophication, ich may be obtained from the address listed below). Volunteers are supplied with mpling kits, which includes a Secchi disc, a water sampler, bottles and instructions. rticipants are asked to take Secchi disc readings and collect water samples biweekly ring the ice-free period of the year. The water samples are shipped to the nearest nistry of the Environment laboratory facilities where they are analyzed for chlorophyll The true value of the programme is only realized if it is continued for a number of ars in order to define longterm trends.

sed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in coloured lakes have been grouped into approximate ranges to indicate the status of richment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
riched	0-3 m	high algal densities	4 ug/l or more
derately enriched	3-5 m	moderate algal densities	2-4 ug/l
enriched	5 m or more	low algal densities	0-2 ug/l

ble 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Catchacoma Lake

ce	Stn. - 4 S.D.	Stn. - 4 Chloro. a	Stn. - 32 S.D.
y 29	5.0		5.0
n 5	4.0		4.0
n 19	3.0		3.5
l 3	4.0		5.0
l 17	4.0		5.0
g 1	4.0		5.0
g 14	3.5		3.5
g 28	3.5		4.0
p 11	5.0		4.0
an	4.0		4.3

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The variation in Secchi disc readings during the sampling period, were minimal at both stations, and no trends were apparent. Based on the season mean for this parameter, there is only a minor difference in lake quality at the two sampling locations. Catchacoma Lake is a moderately enriched lake, characterized by a moderate degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Catchacoma Lake in 1971 and 1977.

Year	Stn. - 4 S.D.	Stn. - 4 Chloro. a	Stn. - 32 S.D.	Stn. - 32 Chloro. a
1971	4.2	0.7*	4.2	0.8*
1972				
1973				
1974				
1975				
1976				
1977	4.0		4.3	

*MOE data

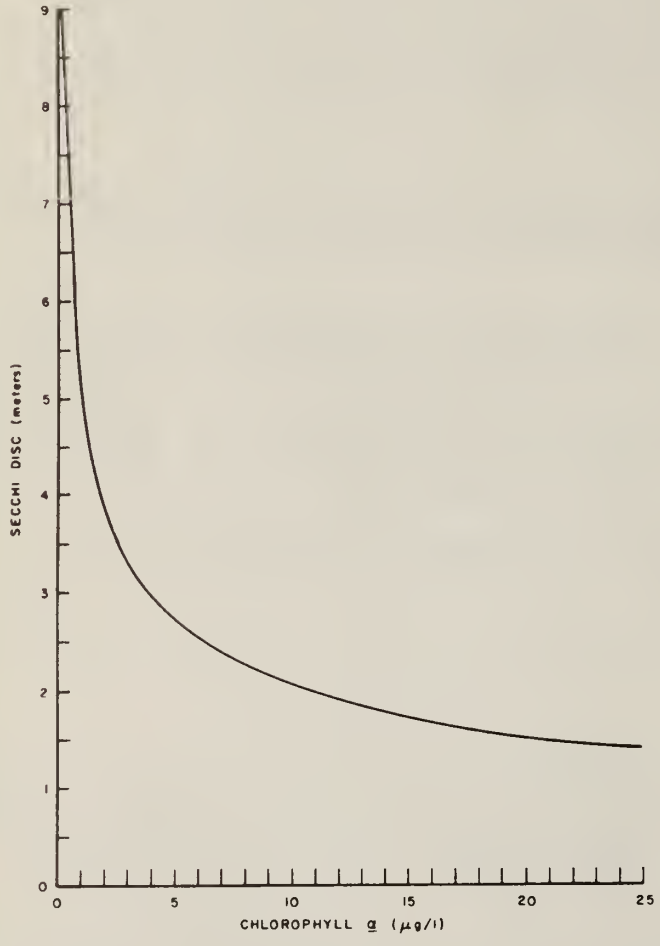

Figure 1: The relationship between Secchi disc and chlorophyll a for Catchacoma Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The average seasonal Secchi disc reading has remained relatively constant, since sam was carried out in 1971, indicating a stable lake condition. It is recommended that participation in this program be continued to ensure this trend persists.

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Ministry of the Environment

CHANDOS LAKE

Chandos Twp., Peterborough County

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality
eys from concerned cottagers on many recreational lakes throughout the Province.
ious experience indicated that the enrichment status of a lake can be estimated
tively easily by using Secchi disc readings and chlorophyll a concentrations (the
n pigment in algae) to give an indication of water clarity and algal density re-
tively. (A more detailed explanation is provided in the publication on Eutrophication,
may be obtained from the address listed below). Volunteers are supplied with
ling kits, which includes a Secchi disc, a water sampler, bottles and instructions.
icipants are asked to take Secchi disc readings and collect water samples biweekly
g the ice-free period of the year. The water samples are shipped to the nearest
stry of the Environment laboratory facilities where they are analyzed for chlorophyll
The true value of the programme is only realized if it is continued for a number of
s in order to define longterm trends.

d on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
loured lakes have been grouped into approximate ranges to indicate the status of
chment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ched	0-3 m	high algal densities	4 ug/l or more
rately enriched	3-5 m	moderate algal densities	2-4 ug/l
riched	5 m or more	low algal densities	0-2 ug/l

e 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Chandos Lake

	Stn. - South Bay (1) S.D.	Chloro. a	Stn. - Gilmour Bay (2) S.D.
29	6.0		5.5
26	5.3		4.8
24	4.0		3.8
21	3.0		3.3
	4.6		4.4

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

Since samples were collected on only four occasions in 1977 it is difficult to obtain even a reasonably accurate estimate of the trophic status of Chandos Lake. The seasonal mean of the available data, indicate only a minor variation in water quality between the two stations. Chandos Lake, on the basis of the available data, would be considered moderately enriched, characterized by a moderately high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Chandos Lake from 1972 to 1977.

Year	Stn. - South Bay (1) S.D.	Chloro. a	Stn. - Gilmour Bay (2) S.D.	Chloro. a
1971				
*1972	3.6	2.0		
**1973	4.9	1.7		
*1974	4.0	1.2		
T 1975	5.2	2.3		
1976	4.0	2.2	3.3	5.2
1977	4.6		4.4	

* mean of 4 stations
** mean of 3 stations
T based on 1 set of data

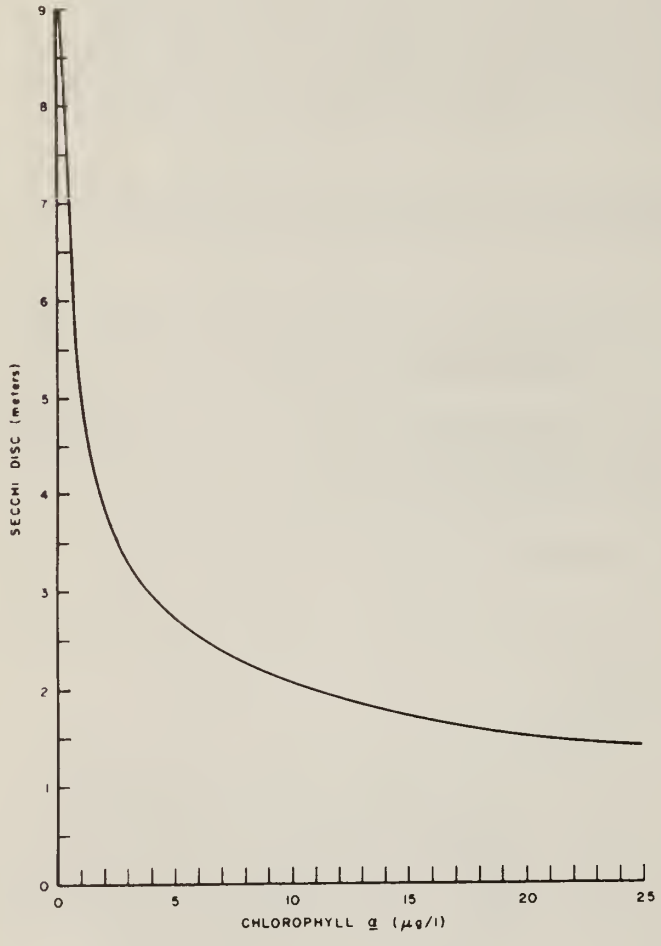

Figure 1: The relationship between Secchi disc and chlorophyll a for Chandos Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Due to the inconsistency of the data contained in Table 2, it is difficult to comment on long-term water quality trends in Chandos Lake. The trophic status of the lake appears stable, but more frequent sampling is required to define long-term lake quality trends.

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Ministry of the Environment

CLEAR LAKE

Wood Ward, Twp. of Muskoka Lakes,
District Municipality of Muskoka.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality veys from concerned cottagers on many recreational lakes throughout the Province. vious experience indicated that the enrichment status of a lake can be estimated atively easily by using Secchi disc readings and chlorophyll a concentrations (the en pigment in algae) to give an indication of water clarity and algal density re- ctively. (A more detailed explanation is provided in the publication on Eutrophication, ch may be obtained from the address listed below). Volunteers are supplied with pling kits, which includes a Secchi disc, a water sampler, bottles and instructions. ticipants are asked to take Secchi disc readings and collect water samples biweekly ing the ice-free period of the year. The water samples are shipped to the nearest istry of the Environment laboratory facilities where they are analyzed for chlorophyll The true value of the programme is only realized if it is continued for a number of rs in order to define longterm trends.

ed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in bloured lakes have been grouped into approximate ranges to indicate the status of ichment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
iched	0-3 m	high algal densities	4 ug/l or more
erately enriched	3-5 m	moderate algal densities	2-4 ug/l
nriched	5 m or more	low algal densities	0-2 ug/l

e 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Clear Lake

	Stn. - Main	
	S.D.	Chloro. a
26	7.5	
13	7.5	
1	7.0	
14	7.0	
30	7.0	
18	-	
	7.2	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings exhibited only minor variation during the sampling period, varying from 7.0 to 7.5 meters. Based on the seasonal mean for this parameter, Clear Lake would be considered unenriched, characterized by a very high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Clear Lake in 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973		
1974		
1975		
1976		
1977	7.2	
"		

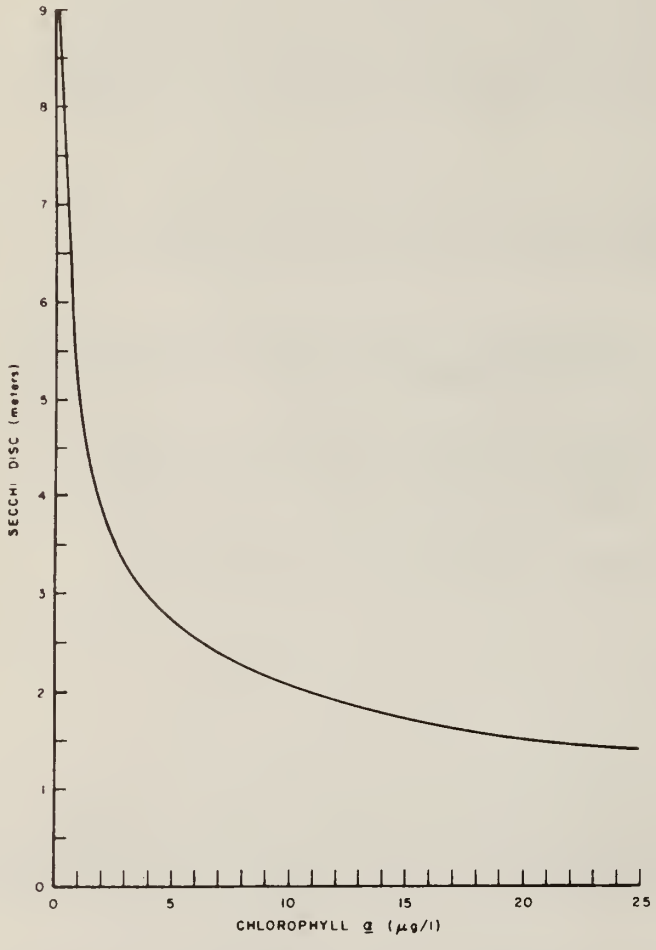

Figure 1: The relationship between Secchi disc and chlorophyll a for Clear Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

It is recommended that participation in this program be continued in order that long-term water quality trends on Clear Lake can be defined.

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Ministry of the Environment

CLEAR LAKE

Oakley Ward, Town of Bracebridge,
District Municipality of Muskoka.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality veys from concerned cottagers on many recreational lakes throughout the Province. vious experience indicated that the enrichment status of a lake can be estimated atively easily by using Secchi disc readings and chlorophyll a concentrations (the en pigment in algae) to give an indication of water clarity and algal density re- ctively. (A more detailed explanation is provided in the publication on Eutrophication, ch may be obtained from the address listed below). Volunteers are supplied with pling kits, which includes a Secchi disc, a water sampler, bottles and instructions. ticipants are asked to take Secchi disc readings and collect water samples biweekly ing the ice-free period of the year. The water samples are shipped to the nearest istry of the Environment laboratory facilities where they are analyzed for chlorophyll . The true value of the programme is only realized if it is continued for a number of rs in order to define longterm trends.

ed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in oloured lakes have been grouped into approximate ranges to indicate the status of ichment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
iched	0-3 m	high algal densities	4 ug/l or more
erately enriched	3-5 m	moderate algal densities	2-4 ug/l
nriched	5 m or more	low algal densities	0-2 ug/l

le 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Clear Lake

	Stn. - Main	
e	S.D.	Chloro. a
15	8.2	
23	8.5	
29	8.5	
12	5.7	
19	6.2	
26	5.5	
3	6.5	
10	7.5	
17	6.7	
1	7.2	
7	7.5	
14	7.5	
28	7.1	
18	7.2	
4	6.4	
n	7.1	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings varied considerable during the sampling period, ranging from 5.7 to 8.5 meters, with the highest measurements occurring in May. Based on the seasonal mean for this parameter, Clear Lake would be considered unenriched, characterized by a very high degree of water transparency.

E 0976 12/77

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Clear Lake in 1977.

Year	Stn. S.D.	Chloro. a
1971		
1972		
1973		
1974		
1975		
1976		
1977	7.1	
"		

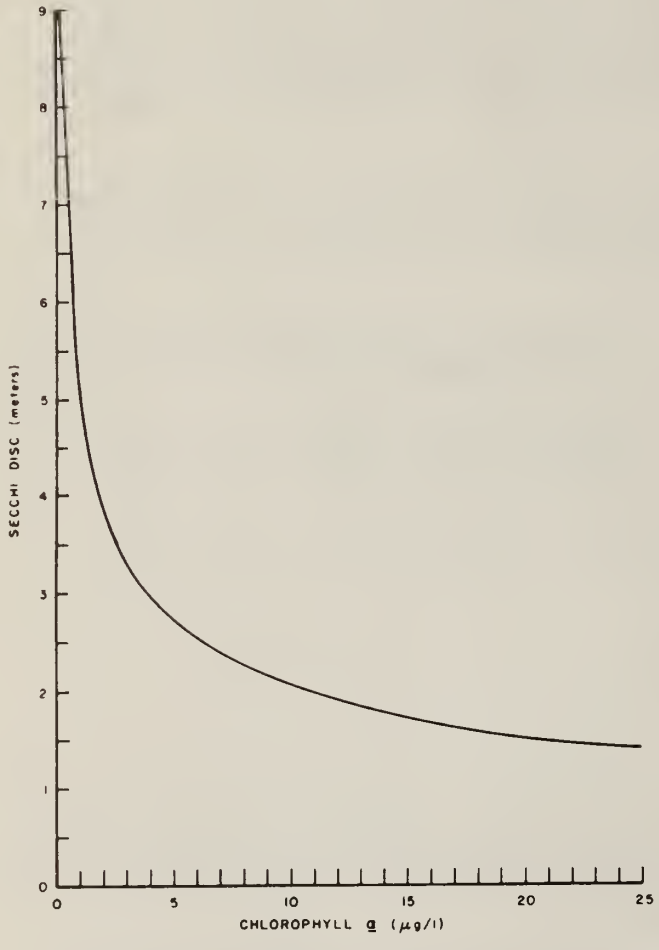

Figure 1: The relationship between Secchi disc and chlorophyll a for Clear Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Due to the absence of chlorophyll a data it is not possible to plot Clear Lake on te above curve, to determine its enrichment status relative to other Southern Ontario lakes. Continued participation in this program will enable a more accurate assessm of the lake's trophic status to be made, an long-term lake trends to be monitored.

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CLEARWATER LAKE

Town of Gravenhurst,
District Municipality of
Muskoka.

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality
veys from concerned cottagers on many recreational lakes throughout the Province.
vious experience indicated that the enrichment status of a lake can be estimated
atively easily by using Secchi disc readings and chlorophyll a concentrations (the
en pigment in algae) to give an indication of water clarity and algal density re-
ctively. (A more detailed explanation is provided in the publication on Eutrophication,
ch may be obtained from the address listed below). Volunteers are supplied with
pling kits, which includes a Secchi disc, a water sampler, bottles and instructions.
icipants are asked to take Secchi disc readings and collect water samples biweekly
ing the ice-free period of the year. The water samples are shipped to the nearest
istry of the Environment laboratory facilities where they are analyzed for chlorophyll
The true value of the programme is only realized if it is continued for a number of
s in order to define longterm trends.

d on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
loured lakes have been grouped into approximate ranges to indicate the status of
chment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ched	0-3 m	high algal densities	4 ug/l or more
rately enriched	3-5 m	moderate algal densities	2-4 ug/l
riched	5 m or more	low algal densities	0-2 ug/l

e 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Clearwater Lake

	Stn. - Main	
	S.D.	Chloro. a
19	5.0	
27	5.0	
4	4.5	
11	5.3	
2	6.0	
8	5.3	
15	5.5	
28	5.5	
11	5.5	
	5.3	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc reading varied from 4.5 to 6.0 meters during the sampling period, but no trend was apparent. Based on the seasonal average for this parameter of 5.3 meters, Clearwater Lake would be considered unenriched, characterized by a high degree of water transparency.

0976 12/77

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Clearwater Lake from 1975 to 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973		
1974		
1975	4.3	1.5
1976	5.4	1.8
1977	5.3	

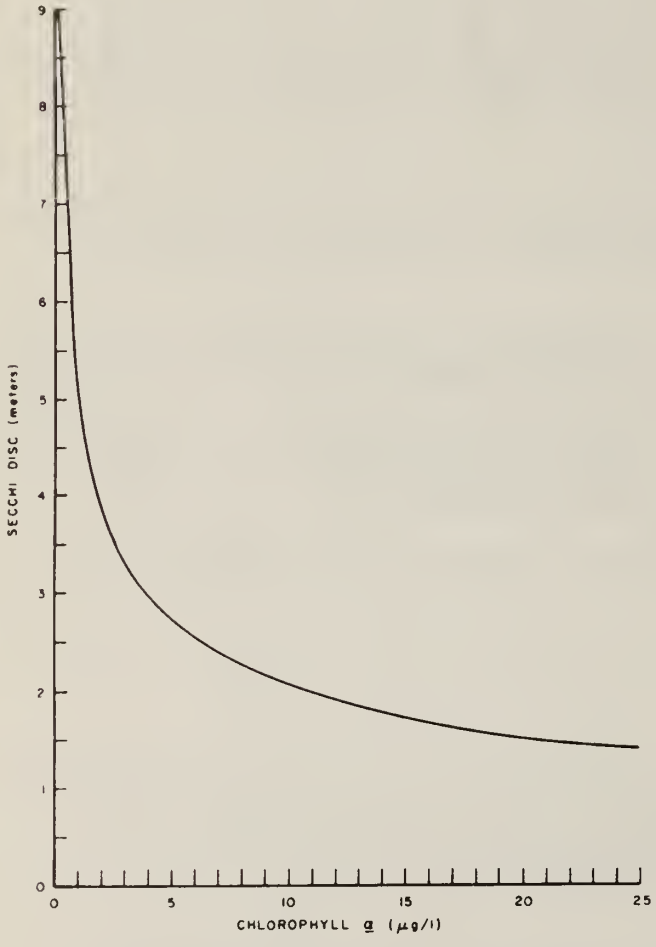

Figure 1: The relationship between Secchi disc and chlorophyll a for Clearwater Lak and a number of other well-known recreational lakes in the province. All data are seasonal means.

The improvement in water transparency that occurred between 1975 and 1976 was sustained in 1977. The available data does not allow any conclusions to be drawn as to whether there has been an improvement in lake quality, thus it is recommended that participation in the program be continued to determine the long-term trends in lake quality.

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CORDOVA LAKE

Belmont Twp., Peterborough County

Ministry of the Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality veys from concerned cottagers on many recreational lakes throughout the Province. evious experience indicated that the enrichment status of a lake can be estimated atively easily by using Secchi disc readings and chlorophyll a concentrations (the en pigment in algae) to give an indication of water clarity and algal density re- ctively. (A more detailed explanation is provided in the publication on Eutrophication, ch may be obtained from the address listed below). Volunteers are supplied with pling kits, which includes a Secchi disc, a water sampler, bottles and instructions. ticipants are asked to take Secchi disc readings and collect water samples biweekly ing the ice-free period of the year. The water samples are shipped to the nearest istry of the Environment laboratory facilities where they are analyzed for chlorophyll . The true value of the programme is only realized if it is continued for a number of rs in order to define longterm trends.

ed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in oloured lakes have been grouped into approximate ranges to indicate the status of ichment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
iched	0-3 m	high algal densities	4 ug/l or more
erately enriched	3-5 m	moderate algal densities	2-4 ug/l
nriched	5 m or more	low algal densities	0-2 ug/l

le 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Cordova Lake

	Stn. - Main	
e	S.D.	Chloro. a
5	4.5	The filters used in chlorophyll a analysis caused a problem which resulted is some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid mis- representation.
17	2.5	
4	4.8	
10	5.5	
n	4.3	Since samples were collected on only four occasions in 1977, it is difficult to obtain even a reasonably accurate estimate of the trophic status of Cordova Lake. Based on the mean Secchi disc reading, for the available data, Cordova Lake would be considered moderately enriched, characterized by a moderate degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Cordova Lake in 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973		
1974		
1975		
1976		
1977	4.3	
"		

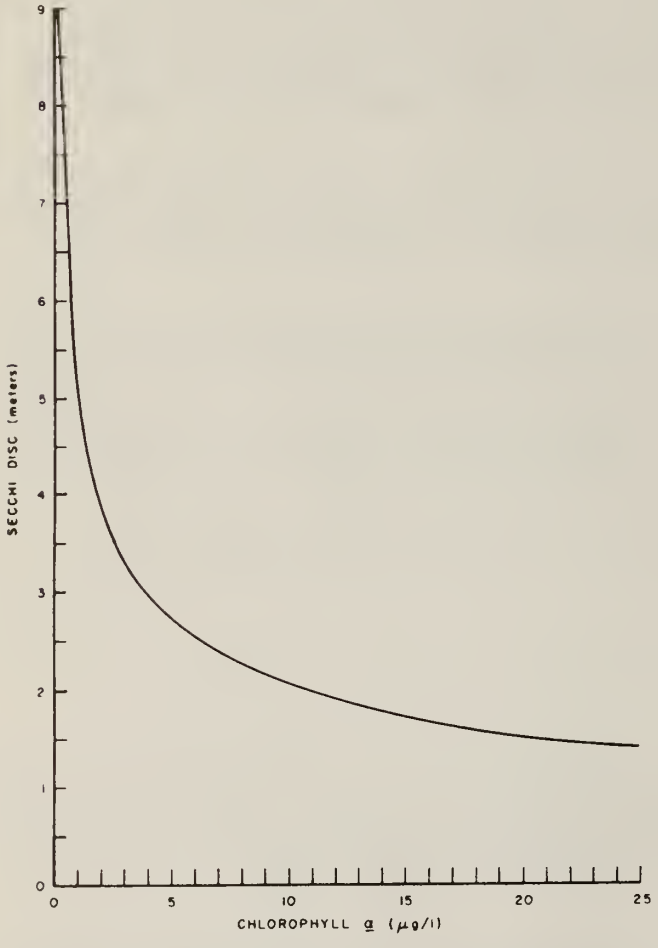

Figure 1: The relationship between Secchi disc and chlorophyll a for Cordova Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Continued participation in this program, with an increased sampling frequency, is required if an accurate assessment of the trophic status of Cordova Lake is to be obtained.

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Ministry of the Environment

CREGO LAKE

Somerville Twp., Victoria County

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality veys from concerned cottagers on many recreational lakes throughout the Province. vious experience indicated that the enrichment status of a lake can be estimated atively easily by using Secchi disc readings and chlorophyll a concentrations (the en pigment in algae) to give an indication of water clarity and algal density re- ctively. (A more detailed explanation is provided in the publication on Eutrophication, ch may be obtained from the address listed below). Volunteers are supplied with pling kits, which includes a Secchi disc, a water sampler, bottles and instructions. ticipants are asked to take Secchi disc readings and collect water samples biweekly ing the ice-free period of the year. The water samples are shipped to the nearest istry of the Environment laboratory facilities where they are analyzed for chlorophyll The true value of the programme is only realized if it is continued for a number of rs in order to define longterm trends.

ed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in ploured lakes have been grouped into approximate ranges to indicate the status of ichment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
iched	0-3 m	high algal densities	4 ug/l or more
erately enriched	3-5 m	moderate algal densities	2-4 ug/l
nriched	5 m or more	low algal densities	0-2 ug/l

le 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Crego Lake

	Stn. - Main	
e	S.D.	Chloro. a
23	4.3	
5	3.5	
19	3.0	
3	4.3	
17	4.0	
1	4.0	
14	4.0	
28	4.0	
11	5.0	
10	4.0	
n	4.0	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc reading varied from 3.0 to 5.0 meters during the sampling period, and no trend was apparent. Based on the seasonal mean for this parameter of 4.0 meters, Crego Lake would be considered moderately enriched, characterized by a moderate degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Crego Lake in 1977.

Year	Stn. S.D.	Chloro. a
1971		
1972		
1973		
1974		
1975		
1976		
1977	4.0	
"		

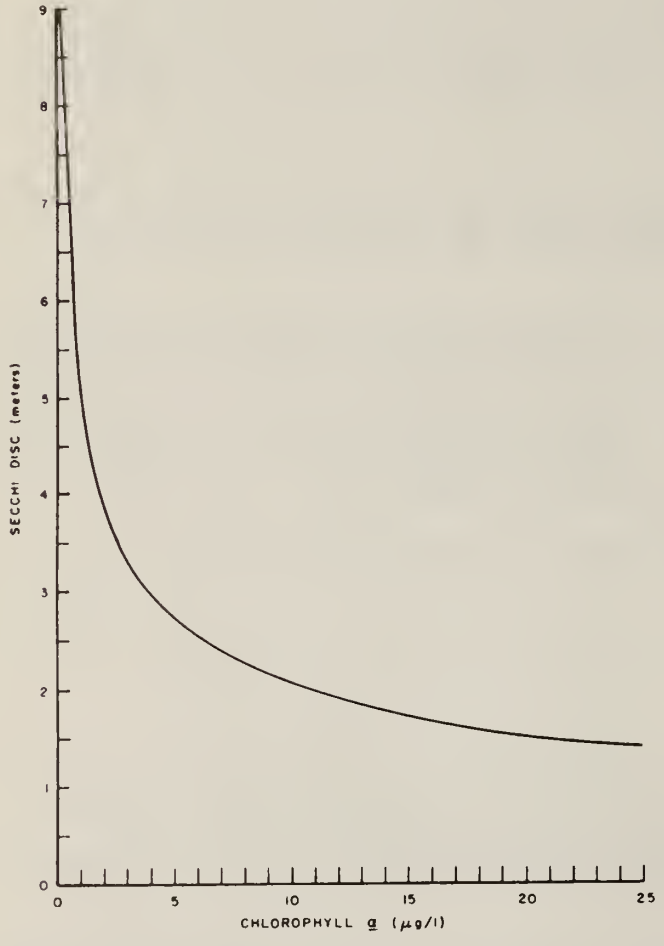

Figure 1: The relationship between Secchi disc and chlorophyll a for and a number of other well-known recreational lakes in the province. All data are seasonal means.

Due to the absence of chlorophyll a data, it is not possible to locate Crego Lake on the above curve, to determine its enrichment status relative to other Southern Ontario lakes. It is recommended that participation in this program be continued in order that the trophic status of the lake may be more accurately determined and any long-term water quality trends be defined.

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Ontario

Ministry of the Environment

CRYSTAL LAKE

Galway Twp., Peterborough County

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality veys from concerned cottagers on many recreational lakes throughout the Province. vious experience indicated that the enrichment status of a lake can be estimated atively easily by using Secchi disc readings and chlorophyll a concentrations (the en pigment in algae) to give an indication of water clarity and algal density re- ctively. (A more detailed explanation is provided in the publication on Eutrophication, ch may be obtained from the address listed below). Volunteers are supplied with pling kits, which includes a Secchi disc, a water sampler, bottles and instructions. ticipants are asked to take Secchi disc readings and collect water samples biweekly ing the ice-free period of the year. The water samples are shipped to the nearest istry of the Environment laboratory facilities where they are analyzed for chlorophyll The true value of the programme is only realized if it is continued for a number of s in order to define longterm trends.

d on experience, mean annual Secchi disc readings and chlorophyll a concentrations in loured lakes have been grouped into approximate ranges to indicate the status of chment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
iched	0-3 m	high algal densities	4 ug/l or more
erately enriched	3-5 m	moderate algal densities	2-4 ug/l
riched	5 m or more	low algal densities	0-2 ug/l

e 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Crystal Lake

	(U. Block B.) Stn. - A		(Clear Bay) Stn. - B	(Mid Lake) Stn. - C	(W. End) Stn. - D
	S.D.	Chloro. a	S.D.	S.D.	S.D.
23	4.5		5.3	4.8	4.5
29			4.5	6.3	5.3
26	5.3		3.3	5.3	4.3
3	3.8		3.3	3.8	3.3
10	4.8		4.3	5.3	4.3
1	3.8		4.3	5.3	3.8
14	5.3		5.3	5.8	4.3
21	3.8		4.3	4.3	3.8
n	4.5		4.3	5.1	4.2

filters used in chlorophyll a analysis caused a problem which resulted in e erroneous analytical data. The chlorophyll a data have been deleted from s year's report to avoid misrepresentation.

ed on the season average of Secchi disc readings at all stations, Crystal e would be considered bordering unenriched conditions, characterized by a erate degree of water transparency. No significant trend is apparent ween stations.

0976 12/77

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Crystal Lake in 1977.

Year	Stn. - A S.D.	Stn. - A Chloro. a	Stn. - B S.D.	Stn. - C S.D.	Stn. - D S.D.
1971					
1972					
1973					
1974					
1975					
1976					
1977	4.5		4.3	5.1	4.2
1977*	5.1		4.7	5.1	5.0

* average values from samples taken during a comparable time period by MOE staff.

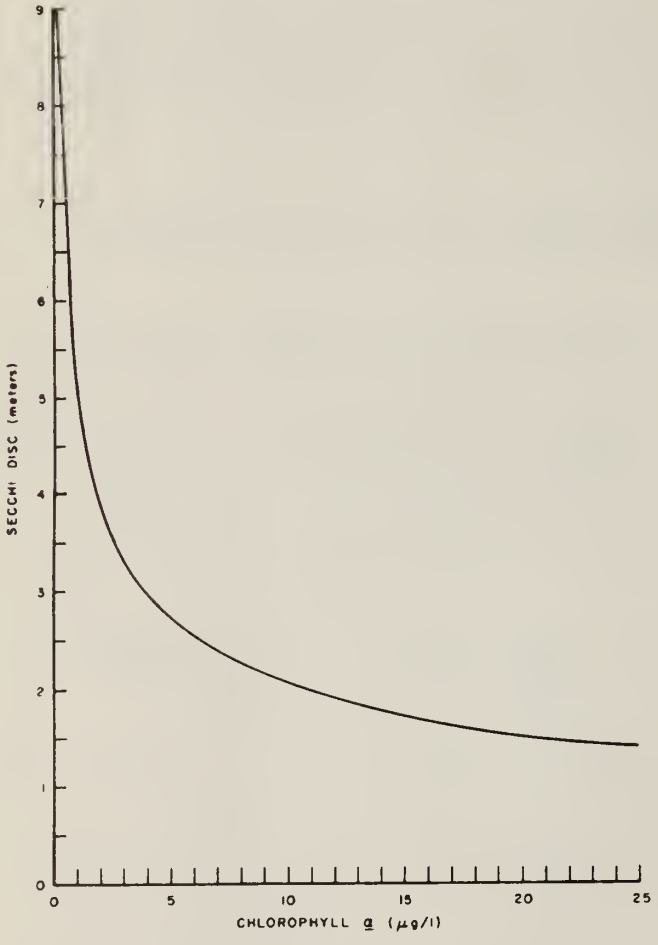

Figure 1: The relationship between Secchi disc and chlorophyll a for and a number of other well-known recreational lakes in the province. All data are seasonal means.

The trophic status of Crystal Lake is comparable to that of Kashagawigamog Lake. Continued participation in this program is required to determine any long-term trends in lake quality.

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Ontario

DAVIS LAKE

Lutterworth Twp., Provisional
County of Haliburton.

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality veys from concerned cottagers on many recreational lakes throughout the Province. rvious experience indicated that the enrichment status of a lake can be estimated eatively easily by using Secchi disc readings and chlorophyll a concentrations (the en pigment in algae) to give an indication of water clarity and algal density re- pctively. (A more detailed explanation is provided in the publication on Eutrophication, ch may be obtained from the address listed below). Volunteers are supplied with apling kits, which includes a Secchi disc, a water sampler, bottles and instructions. aticipants are asked to take Secchi disc readings and collect water samples biweekly uing the ice-free period of the year. The water samples are shipped to the nearest istry of the Environment laboratory facilities where they are analyzed for chlorophyll . The true value of the programme is only realized if it is continued for a number of ers in order to define longterm trends.

ed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in oloured lakes have been grouped into approximate ranges to indicate the status of ichment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
riched	0-3 m	high algal densities	4 ug/l or more
derately enriched	3-5 m	moderate algal densities	2-4 ug/l
nriched	5 m or more	low algal densities	0-2 ug/l

le 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Davis Lake

	Stn. - Main	
e	S.D.	Chloro. a
25	5.5	
3	4.5	
7	3.5	
28	3.6	
n	4.3	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

Since samples were collected on only four occasions in 1977, it is difficult to obtain even a reasonably accurate estimate of the trophic status of Davis Lake. Based on the seasonal mean of the available data, Davis Lake would be considered moderately enriched, characterized by a moderate degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Davis Lake from 1972 to 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972	4.6	1.9
1973	4.9	3.7
1974	3.6	1.4
1975	3.8	1.4
*1976	4.9	2.2
1977	4.3	

*based on 2 sets of data

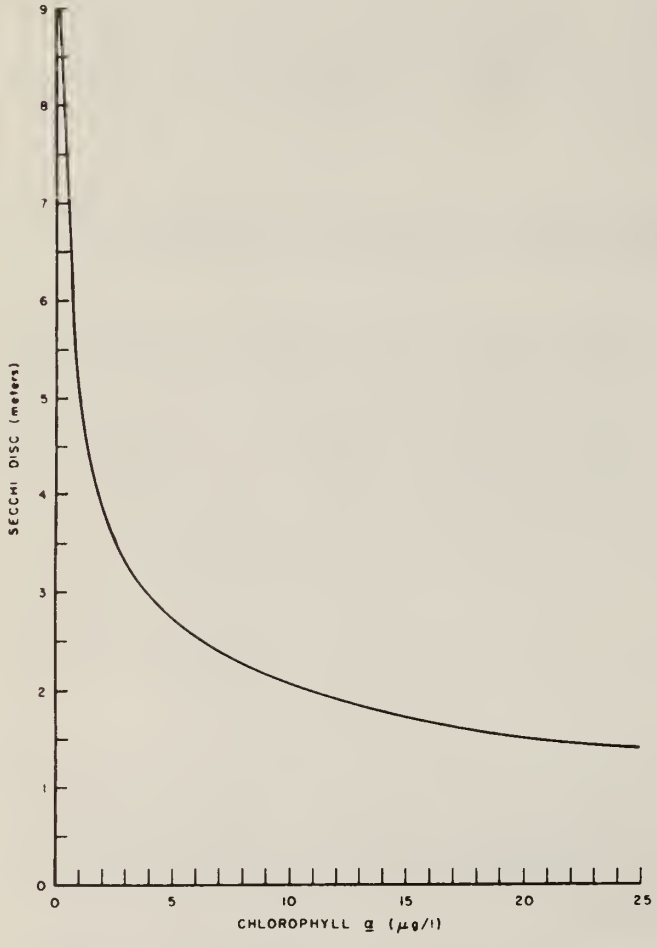

Figure 1: The relationship between Secchi disc and chlorophyll a for Davis Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The variations in the yearly mean Secchi disc reading have not exhibited any definite trend and are primarily the result of natural annual fluctuations. The tropic status of Davis Lake appears relatively stable. Continued participation in this program is recommended to ensure this condition persists.

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Ontario

Ministry of the Environment

DEVIL'S (Lutterworth) LAKE

Lutterworth Twp., Provisional
County of Haliburton

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality veys from concerned cottagers on many recreational lakes throughout the Province. rvious experience indicated that the enrichment status of a lake can be estimated eatively easily by using Secchi disc readings and chlorophyll a concentrations (the ren pigment in algae) to give an indication of water clarity and algal density re- pctively. (A more detailed explanation is provided in the publication on Eutrophication, hch may be obtained from the address listed below). Volunteers are supplied with apling kits, which includes a Secchi disc, a water sampler, bottles and instructions. aticipants are asked to take Secchi disc readings and collect water samples biweekly uing the ice-free period of the year. The water samples are shipped to the nearest iistry of the Environment laboratory facilities where they are analyzed for chlorophyll . The true value of the programme is only realized if it is continued for a number of ers in order to define longterm trends.

ed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in ploured lakes have been grouped into approximate ranges to indicate the status of nichment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
niched	0-3 m	high algal densities	4 ug/l or more
derately enriched	3-5 m	moderate algal densities	2-4 ug/l
nriched	5 m or more	low algal densities	0-2 ug/l

le 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Devil's Lake

	Stn. - A		Stn. - B
e	S.D.	Chloro. a	S.D.
23	2.3		2.8
29	3.5		3.5
5	3.0		3.0
19	4.0		3.0
26	2.8		2.3
3	4.0		3.5
10	4.3		4.3
17	4.0		3.3
21	2.5		3.0
28	2.5		3.6
5	3.0		3.6
11	2.2		3.0
n	3.2		3.2

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

Based on the mean Secchi disc reading, there is no difference in water quality between the two stations sampled. Devil's Lake, on the basis of the available data would be considered moderately enriched, characterized by a moderate degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Devil's Lake in 1977.

Year	Stn. - A S.D.	Chloro. a	Stn.-B S.D.	Chloro. a
1971				
1972				
1973				
1974				
1975				
1976				
1977	3.2		3.2	
"				

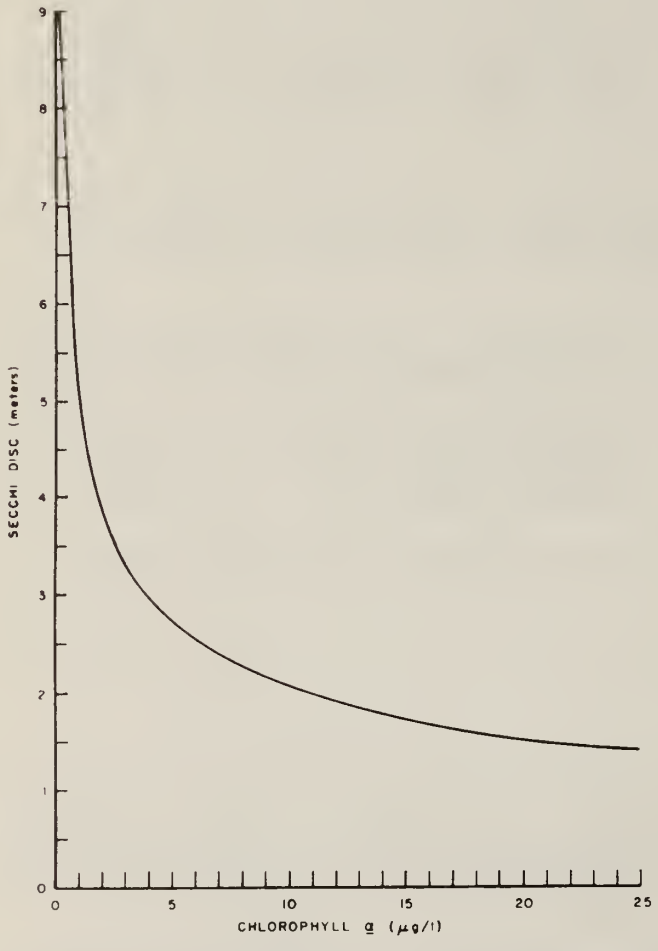

Figure 1: The relationship between Secchi disc and chlorophyll a for Devil's Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Due to the absence of chlorophyll a data, it is not possible to locate Devil's Lak on the above curve, to determine its enrichment status relative to other Southern Ontario lakes. It is recommended that participation in this program be continued n order to define the trophic status of the lake more accurately and define any long term water quality trends.

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Ontario

Ministry of the Environment

DRAG LAKE

Dysart et al, Provisional
County of Haliburton.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality veys from concerned cottagers on many recreational lakes throughout the Province. rvious experience indicated that the enrichment status of a lake can be estimated eatively easily by using Secchi disc readings and chlorophyll a concentrations (the ren pigment in algae) to give an indication of water clarity and algal density re- pctively. (A more detailed explanation is provided in the publication on Eutrophication, hch may be obtained from the address listed below). Volunteers are supplied with abling kits, which includes a Secchi disc, a water sampler, bottles and instructions. aticipants are asked to take Secchi disc readings and collect water samples biweekly ring the ice-free period of the year. The water samples are shipped to the nearest istry of the Environment laboratory facilities where they are analyzed for chlorophyll . The true value of the programme is only realized if it is continued for a number of ers in order to define longterm trends.

ed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in ploured lakes have been grouped into approximate ranges to indicate the status of ichment.

	Secchi disc (S.D.) (meters - m)	Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l
niched	0-3 m	high algal densities 4 ug/l or more
derately enriched	3-5 m	moderate algal densities 2-4 ug/l
nriched	5 m or more	low algal densities 0-2 ug/l

le 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Drag Lake.

	Stn. - Main S.D.	Chloro. a
u	10	8.0
u	17	5.4
u	24	5.0
u	1	-
u	14	6.5
u	21	6.8
u	28	6.4
e	5	6.4
en		6.4

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc reading varied from 5.0 to 8.0 meters during the sampling period, and no trend was apparent. Based on the seasonal mean for this parameter, Drag Lake would be considered unenriched, characterized by a high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973	6.0	2.9
1974	6.2	0.6
1975	6.8	1.4
1976	5.8	2.4
1977	6.4	

"

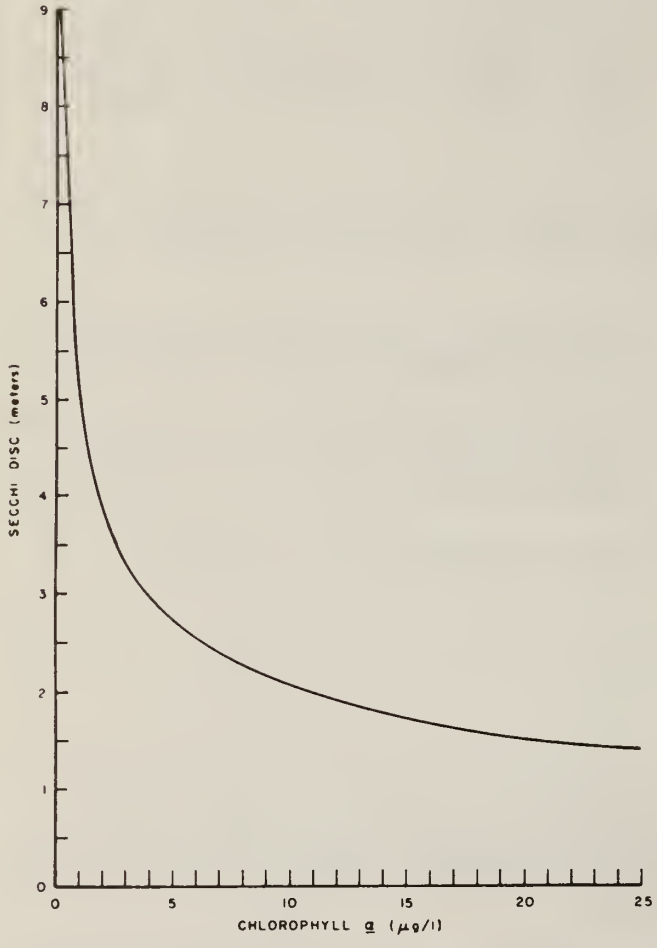

Figure 1: The relationship between Secchi disc and chlorophyll a for Drag Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The variations in the yearly mean Secchi disc readings have not followed any trend and are primarily due to natural annual fluctuations. The trophic status of Drag Lake appears relatively stable, and it is recommended that participation in this program be continued to ensure this condition persists.

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EAST LAKE
Harcourt Twp., Provisional
County of Haliburton

Ontario

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality
veys from concerned cottagers on many recreational lakes throughout the Province.
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ing the ice-free period of the year. The water samples are shipped to the nearest
istry of the Environment laboratory facilities where they are analyzed for chlorophyll
The true value of the programme is only realized if it is continued for a number of
rs in order to define longterm trends.

ed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
loured lakes have been grouped into approximate ranges to indicate the status of
ichment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
iched	0-3 m	high algal densities	4 ug/l or more
erately enriched	3-5 m	moderate algal densities	2-4 ug/l
nriched	5 m or more	low algal densities	0-2 ug/l

le 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from East Lake

	Stn. S.D.	Main Chloro. a
10	4.8	
17	3.8	
24	3.5	
1	4.0	
7	4.8	
14	4.0	
21	5.0	
28	4.0	
. 5	4.3	
	4.2	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

Secchi disc readings varied from 3.8 to 5.0 meters during the sampling period, and no trend was apparent. Based on the seasonal average for this parameter of 4.2 meters, East Lake would be considered moderately enriched, characterized by a moderately high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from East Lake from 1971 to 1977.

Year	Stn. S.D.	Main Chloro. a
1971	4.3	2.7
1972	-	-
1973	5.0	1.9
1974	3.6	1.5
1975	4.2	2.2
1976	4.2	2.3
1977	4.2	

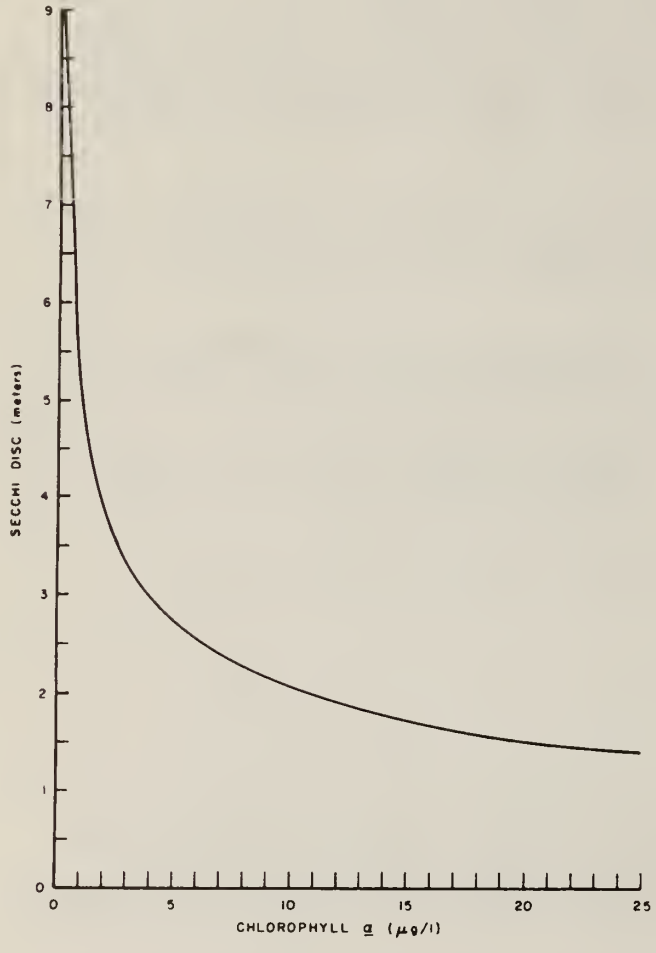

Figure 1: The relationship between Secchi disc and chlorophyll a for East Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The average seasonal Secchi disc reading has remained relatively constant since commencement of this program on East Lake in 1971, indicating a stable lake condition. The variations that have occurred are primarily attributable to natural fluctuations. Continued participation in this program is recommended to ensure this condition persists.

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Ontario

FAIRY LAKE

Town of Huntsville
District Municipality
of Muskoka.

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality
veys from concerned cottagers on many recreational lakes throughout the Province.
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istry of the Environment laboratory facilities where they are analyzed for chlorophyll
The true value of the programme is only realized if it is continued for a number of
rs in order to define longterm trends.

d on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
loured lakes have been grouped into approximate ranges to indicate the status of
ichment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
iched	0-3 m	high algal densities	4 ug/l or more
erately enriched	3-5 m	moderate algal densities	2-4 ug/l
nriched	5 m or more	low algal densities	0-2 ug/l

e 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Fairy Lake

	Stn. - Main	
e	S.D.	Chloro. a
26	4.3	
10	3.5	
24	4.5	
7	4.5	
28	3.8	
	4.1	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings varied from 3.5 to 4.5 meters during the sampling period, and no trend was apparent. Based the season mean for this parameter, Fairy Lake would be considered moderately enriched, characterized by a moderate degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Fairy Lake from 1974 to 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973		
*1974	3.6	12.1
1975	3.8	2.2
1976	-	-
1977	4.1	

"

* one set of data only

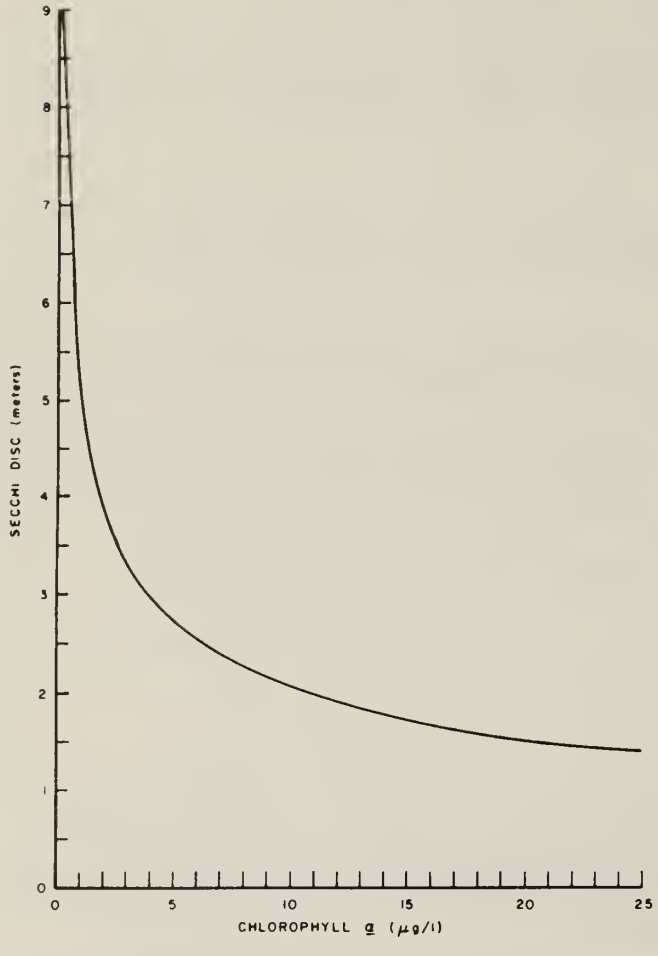

Figure 1: The relationship between Secchi disc and chlorophyll a for Fairy Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The slight improvement in the yearly mean Secchi disc readings, outlined in Table is probably the result of natural annual fluctuations, and does indicate an improv in lake quality. Continued participation in this program is recommended to define long-term water quality trends.

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Ontario

GEORGE'S LAKE
Harcourt Twp., Provisonal
County of Haliburton

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

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The true value of the programme is only realized if it is continued for a number of
s in order to define longterm trends.

d on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
loured lakes have been grouped into approximate ranges to indicate the status of
chment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ched	0-3 m	high algal densities	4 ug/l or more
rately enriched	3-5 m	moderate algal densities	2-4 ug/l
riched	5 m or more	low algal densities	0-2 ug/l

e 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from George's Lake

	Stn. S.D.	Main Chloro. a
1	2.5	
8	2.5	
15	2.8	
29	2.5	
5	2.5	
19	2.8	
2	3.8	
10	3.0	
8	2.5	
21	-	
. 11	2.5	
. 18	3.5	
	2.8	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings remained fairly uniform throughout the sampling period, ranging from 2.5 to 3.5 meters. Based on the seasonal average for this parameter, of 2.8 meters, George's Lake would be considered enriched characterized by a low degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from George's Lake from 1973 to 1977.

Year	Stn. S.D.	Main Chloro. a	Stn. - S.D.	"0" Chloro. a
1971				
1972				
1973	2.2	5.8	-	-
1974	2.3	3.0	2.2	3.9
1975	2.5	10.2	2.0	6.4
1976	2.6	7.2	-	-
1977	2.8			
"				

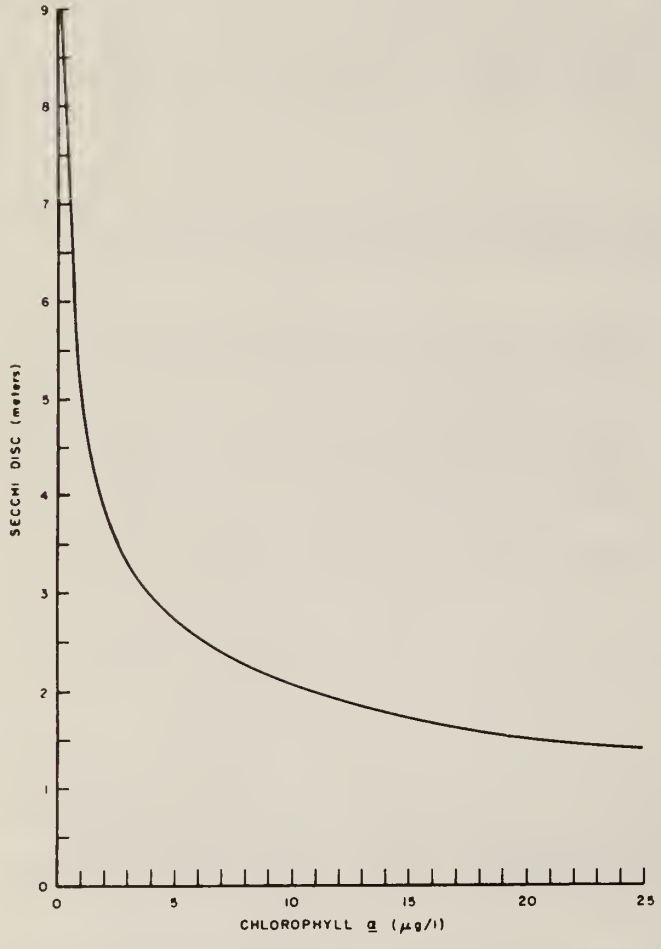

Figure 1: The relationship between Secchi disc and chlorophyll a for George's Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Since commencement of this program on George's Lake in 1977, the average seasonal Secchi disc reading has exhibited a small, but consistent improvement. This could indicate an improvement in lake quality, or could be the results of natural fluctuations. Continued participation in the program is recommended to determine long term lake trends.

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Ontario

GO HOME BAY

Twp. of Georgian Bay, District Municipality of Muskoka.

Ministry of the Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality veys from concerned cottagers on many recreational lakes throughout the Province. rvious experience indicated that the enrichment status of a lake can be estimated atively easily by using Secchi disc readings and chlorophyll a concentrations (the en pigment in algae) to give an indication of water clarity and algal density re- ctively. (A more detailed explanation is provided in the publication on Eutrophication, ch may be obtained from the address listed below). Volunteers are supplied with pling kits, which includes a Secchi disc, a water sampler, bottles and instructions. ticipants are asked to take Secchi disc readings and collect water samples biweekly ing the ice-free period of the year. The water samples are shipped to the nearest istry of the Environment laboratory facilities where they are analyzed for chlorophyll . The true value of the programme is only realized if it is continued for a number of rs in order to define longterm trends.

d on experience, mean annual Secchi disc readings and chlorophyll a concentrations in loured lakes have been grouped into approximate ranges to indicate the status of chment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
iched	0-3 m	high algal densities	4 ug/l or more
erately enriched	3-5 m	moderate algal densities	2-4 ug/l
riched	5 m or more	low algal densities	0-2 ug/l

e 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Go Home Bay

	Stn. - Main S.D.	Chloro. a
3	4.3	
17	5.0	
14	4.5	
11	5.5	
	4.8	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

Since samples were collected on only four occasions in 1977, it is difficult to obtain even a reasonably accurate estimate of the trophic status of Go Home Bay. Based on the seasonal mean of the available data, Go Home Bay would be considered moderately enriched, characterized by a moderately high degree of water transparency.

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Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Go HOme Bay in 1976 and 1977.

Year	Stn. - Main S.D.	Chloro. a	Stn. - 2 S.D.	Chloro. a	Stn. - 3 S.D.	Chloro. a
1971						
1972						
1973						
1974						
1975						
1976	4.1	3.9	4.5	3.6	5.7	2.2
1977	4.8					
"						

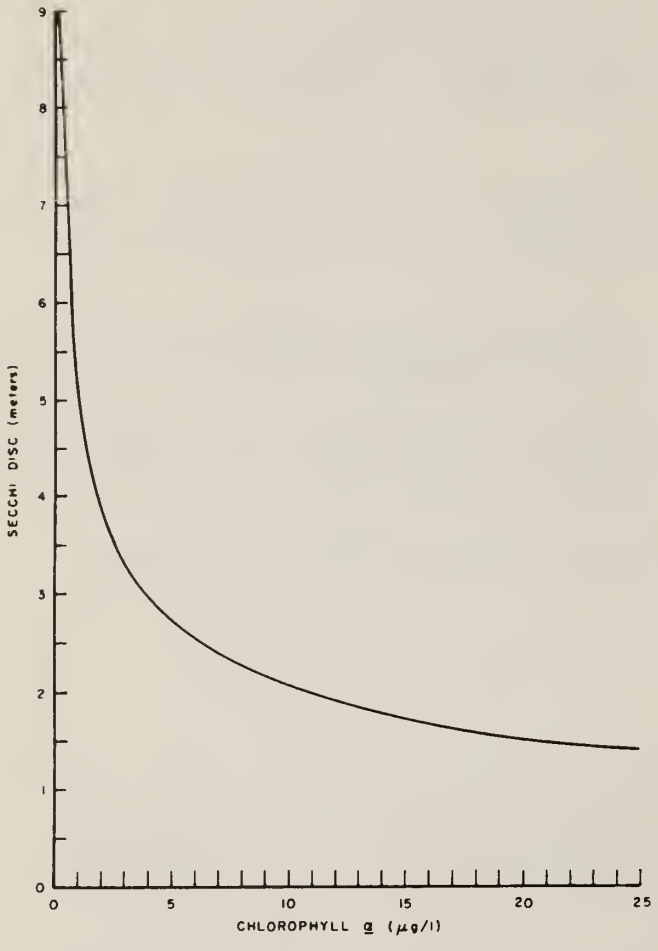

Figure 1: The relationship between Secchi disc and chlorophyll a for and a number of other well-known recreational lakes in the province. All data are seasonal means.

The two year's of data from Go Home Bay is insufficient to draw any conclusions fro regarding lake trends. Continued participaition in this program is recommended in order that sufficient data may be obtained to examine any long-term trends in lake quality.

For additional copies of this report, please contact:
Ontario Ministry of the Environment, Central Region, 150 Ferrand Drive, Don Mills, Ontario, M3C 3C3 (416) 424-3000, Att'n. Mr. R. Shaw

Ontario

GO HOME LAKE
Twp. of Georgian Bay, District
Municipality of Muskoka

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality
veys from concerned cottagers on many recreational lakes throughout the Province.
vious experience indicated that the enrichment status of a lake can be estimated
atively easily by using Secchi disc readings and chlorophyll a concentrations (the
en pigment in algae) to give an indication of water clarity and algal density re-
ctively. (A more detailed explanation is provided in the publication on Eutrophication,
ch may be obtained from the address listed below). Volunteers are supplied with
pling kits, which includes a Secchi disc, a water sampler, bottles and instructions.
ticipants are asked to take Secchi disc readings and collect water samples biweekly
ing the ice-free period of the year. The water samples are shipped to the nearest
istry of the Environment laboratory facilities where they are analyzed for chlorophyll
. The true value of the programme is only realized if it is continued for a number of
rs in order to define longterm trends.

ed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
loured lakes have been grouped into approximate ranges to indicate the status of
ichment.

	Secchi disc (S.D.) (meters - m)	Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
iched	0-3 m	high algal densities	4 ug/l or more
erately enriched	3-5 m	moderate algal densities	2-4 ug/l
nriched	5 m or more	low algal densities	0-2 ug/l

ie 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Go Home Lake

	Stn. Upper S.D.	Chloro. a	Stn. Lower S.D.
2	5.0		4.5
17	4.8		-
1	-		-
14	8.0		5.0
29	6.8		5.9
	6.2		5.1

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The lack of data, particularly from the Lower Station makes it difficult to obtain a reasonably accurate assessment of the trophic status of Go Home Lake. Based on the seasonal means for the available data, both stations would be considered unenriched, though the enrichment status of the Upper Station is lower than that of Lower Station, as evidenced by the greater degree of water transparency at the Upper Station.

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Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Go Home Lake in 1971, 1976 and 1977.

Year	Stn. - Upper (North) S.D.	Chloro. a	Stn. - Lower (South) S.D.	Chloro. a
*1971	3.6	1.4		
1972				
1973				
1974				
1975				
1976	5.6	1.9	5.4	2.3
1977	6.2		5.1	
"				

* mean of two stations

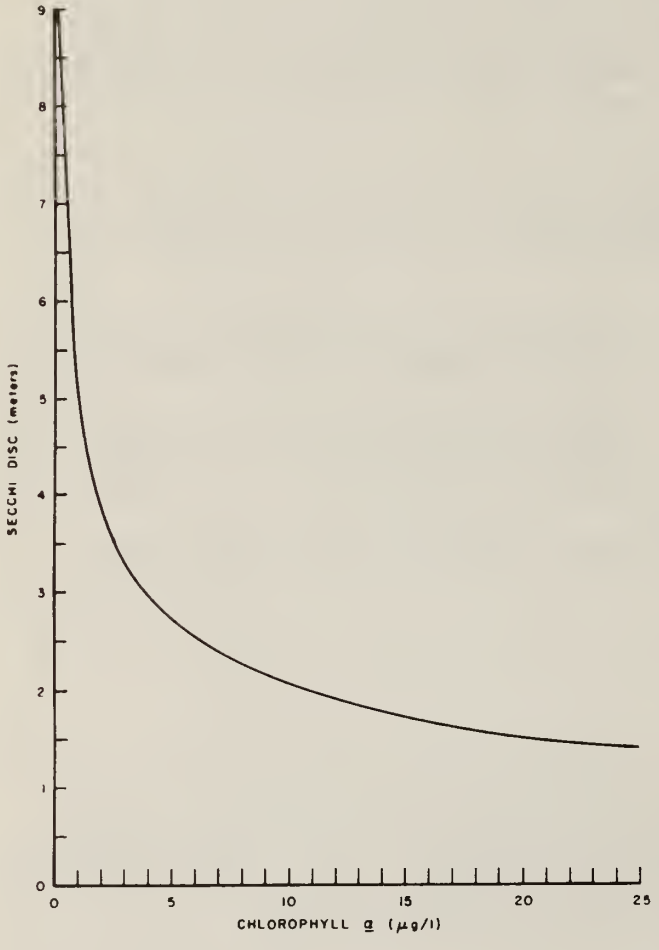

Figure 1: The relationship between Secchi disc and chlorophyll a for Go Home Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The two year's of data from Go Home Lake is insufficient to draw any conclusions from regarding lake trends. Continued participation in this program, with more frequent sampling, is required, if sufficient data is to be obtained, to examine long-term trend in lake quality.

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Ontario

Ministry of the Environment

GULL LAKE

Lutterworth Twp., Provisional County of Haliburton.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality veys from concerned cottagers on many recreational lakes throughout the Province. rvious experience indicated that the enrichment status of a lake can be estimated atively easily by using Secchi disc readings and chlorophyll a concentrations (the ren pigment in algae) to give an indication of water clarity and algal density re- ctively. (A more detailed explanation is provided in the publication on Eutrophication, ch may be obtained from the address listed below). Volunteers are supplied with pling kits, which includes a Secchi disc, a water sampler, bottles and instructions. ticipants are asked to take Secchi disc readings and collect water samples biweekly ing the ice-free period of the year. The water samples are shipped to the nearest istry of the Environment laboratory facilities where they are analyzed for chlorophyll . The true value of the programme is only realized if it is continued for a number of rs in order to define longterm trends.

ed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in loured lakes have been grouped into approximate ranges to indicate the status of chment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
iched	0-3 m	high algal densities	4 ug/l or more
erately enriched	3-5 m	moderate algal densities	2-4 ug/l
nriched	5 m or more	low algal densities	0-2 ug/l

e 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Gull Lake

	Stn.-1 S.D.	Stn.-3 S.D.	Stn.-4 S.D.
23	4.0	5.4	3.5
29		4.3	
9		4.8	6.0
12		4.0	
19	5.0	4.8	
26	4.0	6.2	
3	4.0	7.0	5.5
10	6.0	8.5	
17	5.0	7.0	5.0
24	4.0	6.5	
1	5.5	-	
7	5.3		7.0
14	4.5	7.0	
21		5.0	
5	4.5	—	—
	4.7	5.8	5.4

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

Based on the mean seasonal Secchi disc readings, Stations 3 and 4 would be considered unenriched, characterized by a high degree of water transparency. Station 1 appears to be slightly more enriched than the other 2 stations as evidenced by the lower measurement of water transparency.

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Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Gull Lake in 1976 and 1977.

Year	Stn. - 1 S.D.	Stn. - 1 Chloro. a	Stn. - 2 S.D.	Stn. - 2 Chloro. a	Stn. - 3 S.D.	Stn. - 3 Chloro a	Stn. - 4 S.D.	Stn. - 4 Chloro. a
1971								
1972								
1973								
1974								
1975								
1976	5.4	1.9	3.7	1.5	5.7	2.0	5.5	2.0
1977	4.7				5.8		5.4	
"								

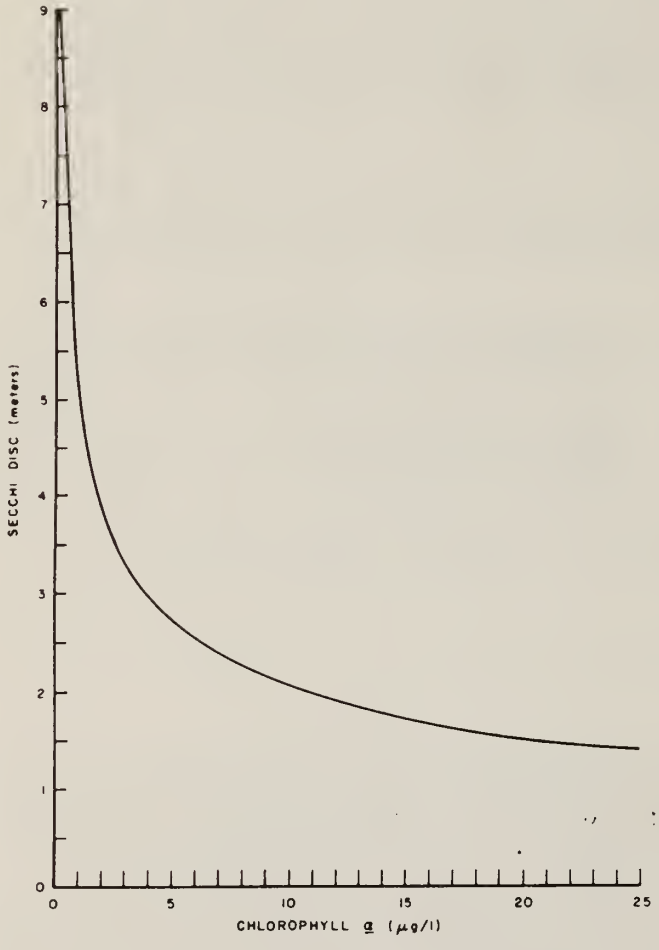

Figure 1: The relationship between Secchi disc and chlorophyll a for and a number of other well-known recreational lakes in the province. All data are seasonal means.

The two year's of data from Gull Lake is insufficient to draw any definite conclusions from regarding lake trends. Continued participation in this program is required, if sufficient data is to be obtained to examine long-term trends in lake quality.

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Ontario

Ministry of the Environment

HALIBURTON LAKE

Harburn Twp., Provisional County of Haliburton

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

h "Self-Help Programme" was initiated in 1971 in response to requests for water quality
uveys from concerned cottagers on many recreational lakes throughout the Province.
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istry of the Environment laboratory facilities where they are analyzed for chlorophyll
. The true value of the programme is only realized if it is continued for a number of
rs in order to define longterm trends.

d on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
loured lakes have been grouped into approximate ranges to indicate the status of
chment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ched	0-3 m	high algal densities	4 ug/l or more
rately enriched	3-5 m	moderate algal densities	2-4 ug/l
riched	5 m or more	low algal densities	0-2 ug/l

e 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Haliburton Lake

Stn. - Main S.D.	Stn. - Main Chloro. a	Stn. - S. Bay S.D.	Stn. - S. Bay Chloro. a
3	8.2	4.0	
9	8.8	4.5	
5	8.2	4.8	
2	9.0	3.8	
9	8.3	4.0	
5		4.5	
3	7.0	4.5	
0	8.5	4.3	
7	5.6	4.8	
4	6.5	4.5	
4	7.5	3.8	
7	7.8	4.0	
4	7.6	4.5	
1	7.5	4.0	
3	7.3	4.0	
5	7.6	4.8	
0	7.6	3.8	
	7.6	4.3	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings exhibited considerable variability at the Main Stn. (5.6 to 9.0 m), with the highest readings occurring during May and June. The S. Bay Stn.'s Secchi disc readings exhibited less variation (3.8 to 4.8 m) and no trend was apparent. Based on the seasonal average Secchi disc reading, the Main Stn. would be considered unenriched, characterized by a very high degree of water transparency. Using the same parameter, the S. Bay Stn. would be considered moderately enriched, characterized by a moderately high degree of water transparency.

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Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Haliburton Lake from 1972 to 1977.

Year	Stn. - Main S.D.	Chloro. a	Stn. - S. Bay S.D.	Chloro. a
1971				
*1972	6.3	1.0	3.5	2.7
1973	6.0	1.8	-	-
1974	6.7	1.1	3.8	2.4
1975	6.4	2.5	3.6	3.3
1976	6.0	1.7	4.0	4.7
1977	7.6		4.3	

"

* from Dillon (1974)

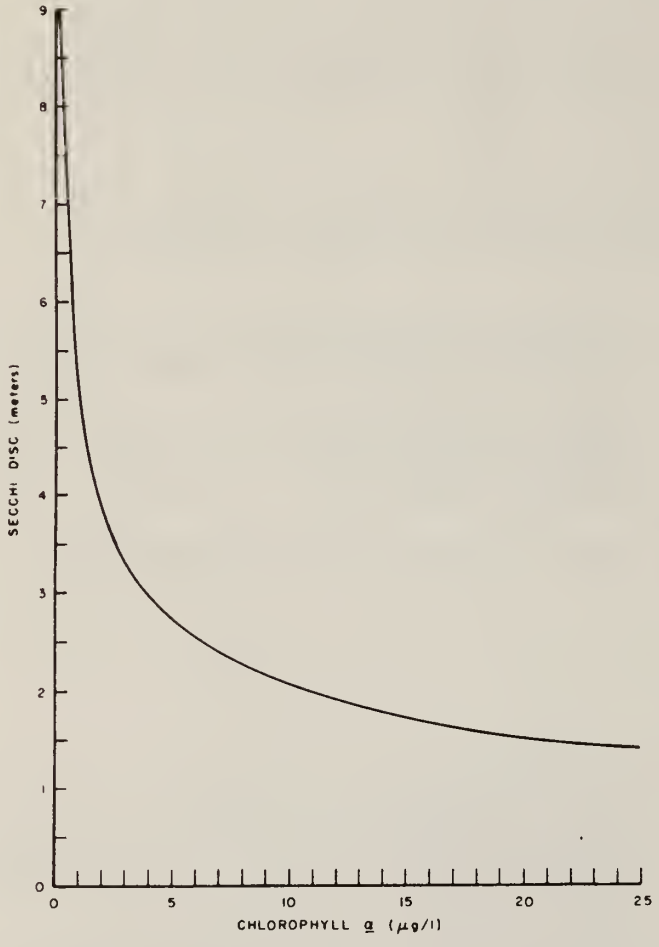

Figure 1: The relationship between Secchi disc and chlorophyll a for Haliburton Lak and a number of other well-known recreational lakes in the province. All data are seasonal means.

Whether the increased water transparency measured this year at the Main Stn. is te result of a natural fluctuation, or represents an improvement in lake quality cant be determined from the available data. Similarly no definite conclusion can be mde concerning the small, but consistent improvement in water transparency measured te last three years at the S. Bay Stn. It is strongly recommended that this program be continued at both stations to determine what long-term trends will develop.

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Ontario

Ministry of the Environment

HALL'S LAKE

Stanhope Twp., Provisional
County of Haliburton

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality veys from concerned cottagers on many recreational lakes throughout the Province. rvious experience indicated that the enrichment status of a lake can be estimated atively easily by using Secchi disc readings and chlorophyll a concentrations (the en pigment in algae) to give an indication of water clarity and algal density re- ctively. (A more detailed explanation is provided in the publication on Eutrophication, ch may be obtained from the address listed below). Volunteers are supplied with pling kits, which includes a Secchi disc, a water sampler, bottles and instructions. ticipants are asked to take Secchi disc readings and collect water samples biweekly ing the ice-free period of the year. The water samples are shipped to the nearest istry of the Environment laboratory facilities where they are analyzed for chlorophyll . The true value of the programme is only realized if it is continued for a number of rs in order to define longterm trends.

ed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in ploured lakes have been grouped into approximate ranges to indicate the status of ichment.

	Secchi disc (S.D.) (meters - m)	Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
iched	0-3 m	high algal densities	4 ug/l or more
erately enriched	3-5 m	moderate algal densities	2-4 ug/l
nriched	5 m or more	low algal densities	0-2 ug/l

le 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Hall's Lake

	Stn. - A S.D.	Chloro. a
4	7.0	
3	8.5	
10	9.0	
17	9.5	
24	9.5	
7	9.5	
14	8.0	
21	7.5	
28	7.6	
n	8.5	

The filters used in chloraphyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings varied from 7.5 to 9.5 meters during the sampling period, and no trend was apparent. Based on the season average for this parameter of 8.5 meters, Hall's Lake would be considered unenriched, characterized by a very high degree of water transparency.

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Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Hall's Lake from 1972 to 1977.

Year	Stn. - A S.D.	Chloro. a
1971		
1972	8.7	0.7
1973	7.8	0.7
1974	7.5	0.4
1975	8.4	0.6
1976	7.5	1.1
1977	8.5	

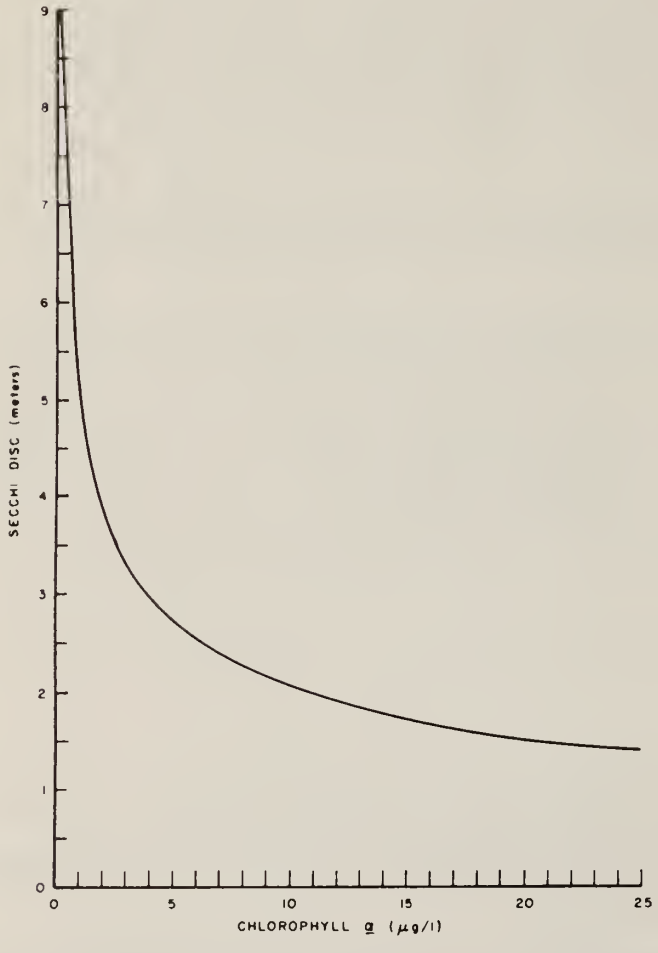

Figure 1: The relationship between Secchi disc and chlorophyll a for Hall's Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

During the six years this program has been conducted on Hall's Lake, the average seasonal Secchi disc reading has varied from 7.5 to 8.7 meters. These variations which do not follow any specific trend, are probably the result of natural fluctuatio and reflect a stable lake condition. Continued participation in this program is recommended, to ensure this trend persists.

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Ontario

HARP LAKE
Town of Huntsville, District
Municipality of Muskoka

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality
veys from concerned cottagers on many recreational lakes throughout the Province.
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ticipants are asked to take Secchi disc readings and collect water samples biweekly
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istry of the Environment laboratory facilities where they are analyzed for chlorophyll
. The true value of the programme is only realized if it is continued for a number of
rs in order to define longterm trends.

ed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
oloured lakes have been grouped into approximate ranges to indicate the status of
ichment.

	Secchi disc (S.D.) (meters - m)	Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
iched	0-3 m	high algal densities	4 ug/l or more
erately enriched	3-5 m	moderate algal densities	2-4 ug/l
nriched	5 m or more	low algal densities	0-2 ug/l

le 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Harp Lake

e	Stn. S.D.	Main Chloro. a
12	4.0	
26	5.4	
10	5.8	
1	4.8	
14	4.4	
23	4.5	
28	4.6	
	4.8	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this years report to avoid misrepresentation.

The Secchi disc readings exhibited only minor variation during the sampling period, ranging from 4.4 to 5.4 meters. Based on the seasonal average for this parameter of 4.8 meters, Harp Lake would be considered moderately enriched, characterized by a moderately high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Harp Lake from 1973 to 1977.

Year	Stn. S.D.	Main Chloro. a
1971		
1972		
1973	4.0	3.3
1974	3.7	2.1
1975	5.0	3.3
*1976	4.5	2.2
1977	4.8	

"

* based on 2 samplings

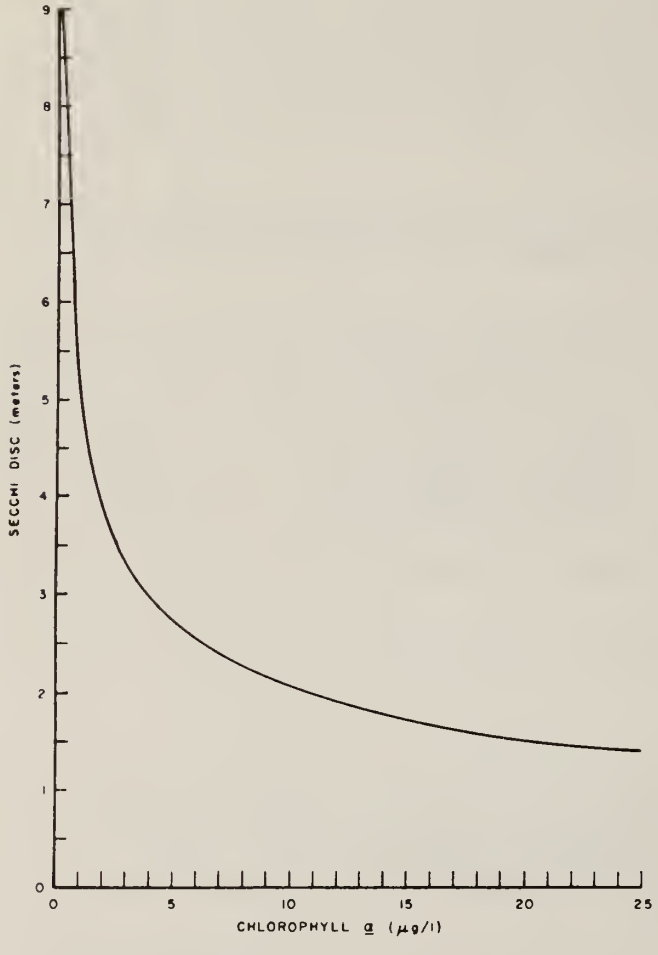

Figure 1: The relationship between Secchi disc and chlorophyll a for Harp Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The yearly variations in Secchi disc readings outlined in Table 2 are attributable nat to natural annual fluctuations. The available data for this parameter indicates a relatively stable lake condition. It is recommended that participation in this progra be continued, to ensure this trend continues.

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HEAD LAKE
Lexton & Digby Twps.
Victoria County

Ontario

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality
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istry of the Environment laboratory facilities where they are analyzed for chlorophyll
The true value of the programme is only realized if it is continued for a number of
rs in order to define longterm trends.

ed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
oloured lakes have been grouped into approximate ranges to indicate the status of
richment.

	Secchi disc (S.D.) (meters - m)	Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l
iched	0-3 m	high algal densities 4 ug/l or more
erately enriched	3-5 m	moderate algal densities 2-4 ug/l
nriched	5 m or more	low algal densities 0-2 ug/l

le 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Head Lake

	Stn. Main
e	S.D. Chloro. a
23	4.5
29	4.5
e 5	2.5
e 12	3.0
e 18	2.5
e 26	3.0
v 3	3.0
y 10	4.0
y 17	3.0
y 24	3.5
. 1	3.5
. 7	3.5
. 14	3.8
. 21	3.0
. 28	3.0
t. 5	2.5
n	3.3

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings varied from 2.5 to 4.5 meters during the sampling period, and no trend was apparent. Based on the seasonal average for this parameter of 3.3 meters, Head Lake would be considered moderately enriched, characterized by a moderate degree of water transparency.

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Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Head Lake from 1972 to 1977.

Year	Stn. S.D.	Main Chloro. a
1971		
1972	3.2	2.8
1973	2.9	3.0
1974	2.8	2.0
1975	2.8	2.7
1976	3.0	2.9
1977	3.3	

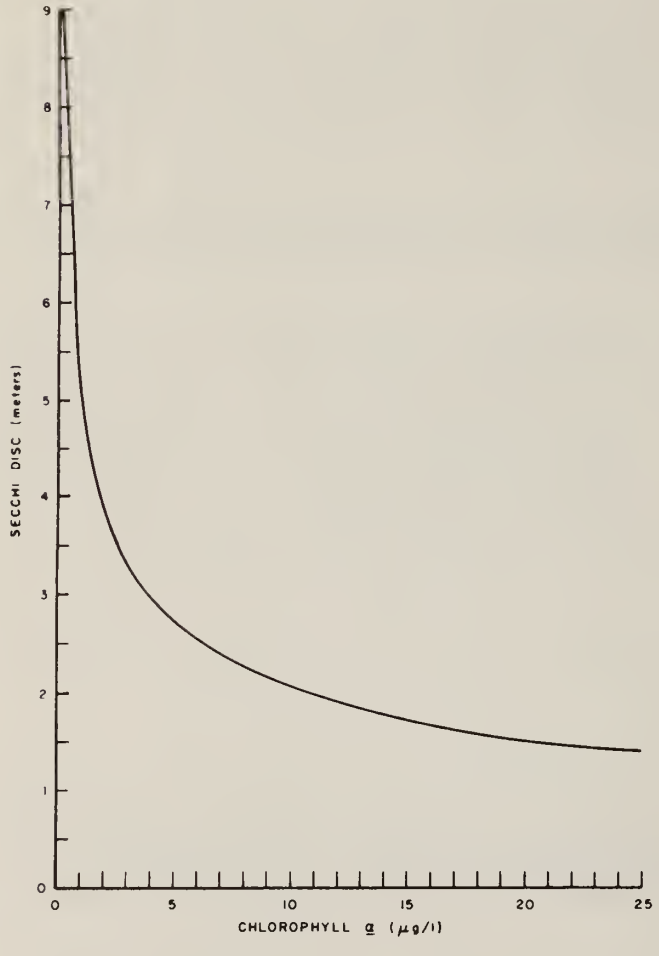

Figure 1: The relationship between Secchi disc and chlorophyll a for Head Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Since the commencement of this program on Head Lake in 1972, the average seasonal Secch disc reading has remained relatively constant, indicating a stable lake condition. Conti participation in the program is required to determine if this condition persists.

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Ontario

HORSESHOE LAKE

Minden Twp., Provisional
County of Haliburton.

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

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chment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
iched	0-3 m	high algal densities	4 ug/l or more
erately enriched	3-5 m	moderate algal densities	2-4 ug/l
riched	5 m or more	low algal densities	0-2 ug/l

ie 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Horseshoe Lake

	Stn. - Main S.D.	Chloro. a
a	23	8.2
b	24	6.6
u	1	5.6
u	14	6.2
e		6.7

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

Since Horseshoe Lake was only sampled on four occasions in 1977, it is difficult to obtain even a reasonably accurate assessment of the lake's trophic status. Based on the mean of the available data, Horseshoe Lake would be considered unenriched, characterized by a very high degree of water transparency.

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Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Horseshoe Lake from 1973 to 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973	5.3	2.3
1974	4.6	0.9
1975	6.8	3.7
1976	6.6	2.4
1977	6.7	

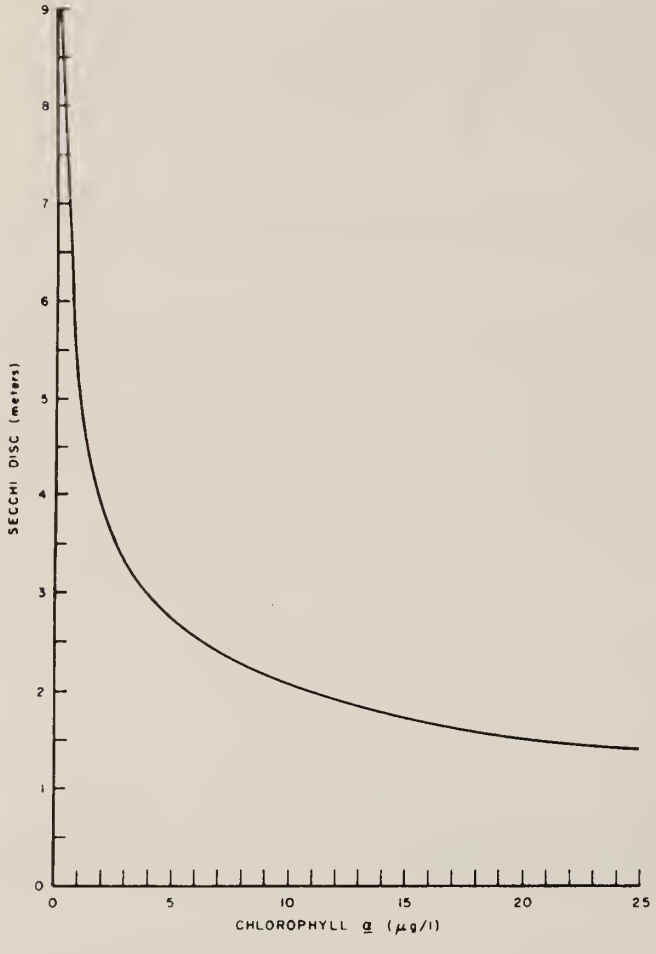

Figure 1: The relationship between Secchi disc and chlorophyll a for Horseshoe Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Since commencement of this program on Horseshoe Lake in 1973, the yearly mean Secchi disc readings have varied considerably, but no trend is apparent. These variations are primarily due to natural annual fluctuations, and do not represent an alteration in lake quality.

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Ontario

Ministry of the Environment

JACK LAKE

Burleigh and Methuen Twps.,
Peterborough County

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality ...ys from concerned cottagers on many recreational lakes throughout the Province. ...ous experience indicated that the enrichment status of a lake can be estimated ...ively easily by using Secchi disc readings and chlorophyll a concentrations (the ... pigment in algae) to give an indication of water clarity and algal density re-...ively. (A more detailed explanation is provided in the publication on Eutrophication, ... may be obtained from the address listed below). Volunteers are supplied with ...ing kits, which includes a Secchi disc, a water sampler, bottles and instructions. ...cipants are asked to take Secchi disc readings and collect water samples biweekly ...g the ice-free period of the year. The water samples are shipped to the nearest ...try of the Environment laboratory facilities where they are analyzed for chlorophyll ...he true value of the programme is only realized if it is continued for a number of ... in order to define longterm trends.

... on experience, mean annual Secchi disc readings and chlorophyll a concentrations in ...oured lakes have been grouped into approximate ranges to indicate the status of ...hment.

	Secchi disc (S.D.) (meters - m)	Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
...ched	0-3 m	high algal densities	4 ug/l or more
...ately enriched	3-5 m	moderate algal densities	2-4 ug/l
...iched	5 m or more	low algal densities	0-2 ug/l

... 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Jack Lake

JACK LAKE

	Stn. - Sharp's Bay S.D.	Chloro. a	Stn. - Brook's Bay S.D.
...5	4.0		3.5
...23	4.9		3.6
...29	4.9		2.8
...5	5.2		3.9
...2	5.0		3.9
...9	5.5		3.0
...4	5.2		4.0
...8	5.0		4.6
...25	5.6		3.9
...22	3.8		3.0
...29	4.3		3.7
...5	4.0		3.2
...9	3.4		2.7
...	4.7		3.5

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The highest Secchi disc readings at both stations were measured during July, and the lowest reading was obtained in October. Based on the seasonal mean for the parameter, Sharp's Bay would be considered moderately enriched, characterized by a moderately high degree of water transparency. Utilizing the same parameter, Brook's Bay would also be considered moderately enriched, characterized by a moderate degree of water transparency.

... 0976 12/77

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Jack Lake from 1971 to 1977

Year	Stn. - Sharp's Bay S.D.	Chloro. a	Stn. - Brook's Bay S.D.	Chloro. a
1971			3.9	2.6
1972				
1973				
1974	4.4	1.4	3.4	1.9
1975				
1976	4.5	2.9	3.4	3.7
1977	4.7		3.5	
"				

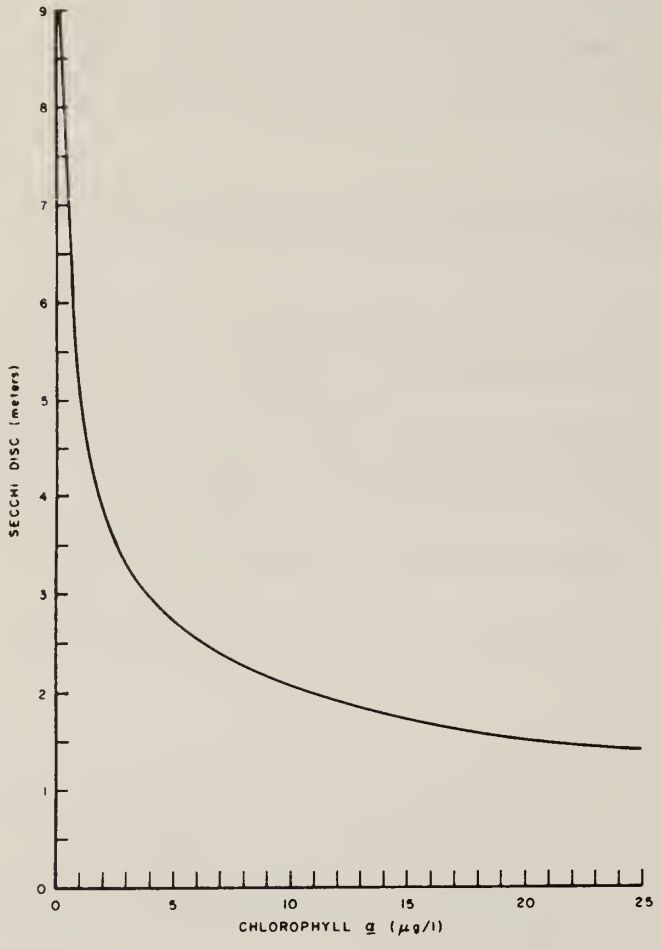

Figure 1: The relationship between Secchi disc and chlorophyll a for Jack Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Since the commencement of this program, the average seasonal Secchi disc readings hve remained relatively constant at both stations, indicating a stable lake condition. It is recommended that participation in this program be continued, to ensure this trend persists.

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KAHSHE LAKE
Town of Gravenhurst,
District Municipality of
Muskoka

Ontario

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality
rveys from concerned cottagers on many recreational lakes throughout the Province.
vious experience indicated that the enrichment status of a lake can be estimated
atively easily by using Secchi disc readings and chlorophyll a concentrations (the
en pigment in algae) to give an indication of water clarity and algal density re-
ctively. (A more detailed explanation is provided in the publication on Eutrophication,
ch may be obtained from the address listed below). Volunteers are supplied with
pling kits, which includes a Secchi disc, a water sampler, bottles and instructions.
ticipants are asked to take Secchi disc readings and collect water samples biweekly
ing the ice-free period of the year. The water samples are shipped to the nearest
istry of the Environment laboratory facilities where they are analyzed for chlorophyll
. The true value of the programme is only realized if it is continued for a number of
rs in order to define longterm trends.

ed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
oloured lakes have been grouped into approximate ranges to indicate the status of
richment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
iched	0-3 m	high algal densities	4 ug/l or more
erately enriched	3-5 m	moderate algal densities	2-4 ug/l
nriched	5 m or more	low algal densities	0-2 ug/l

le 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Kahshe Lake

	Stn. - 24		Stn. - 26	
e	S.D.	Chloro. a	S.D.	Chloro. a
u. 7	3.0		3.5	
u. 14	3.3		4.0	
u. 28	3.0		3.5	
c. 10	3.3		3.0	
n	3.2		3.5	

filters used in chlorophyll a analysis caused a problem which resulted in some erron-
s analytical data. The chlorophyll a data have been deleted from this year's report
void misrepresentation.

e Kahshe Lake was sampled on only four occasions in 1977, it is difficult to make a
sonably accurate assessment of the lake's trophic status. Based on the seasonal means
the available data, Kahshe Lake would be considered moderately enriched, characterized
a moderate degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Kahshe Lake in 1971 & 1976.

Year	Stn. - 24 S.D.	Stn. - 24 Chloro. a	Stn. - 26 S.D.	Stn. - 26 Chloro.a
*1971	2.6	3.0	2.9	3.2
1972				
1973				
1974				
1975				
1976				
1977	3.2		3.5	

* MOE data

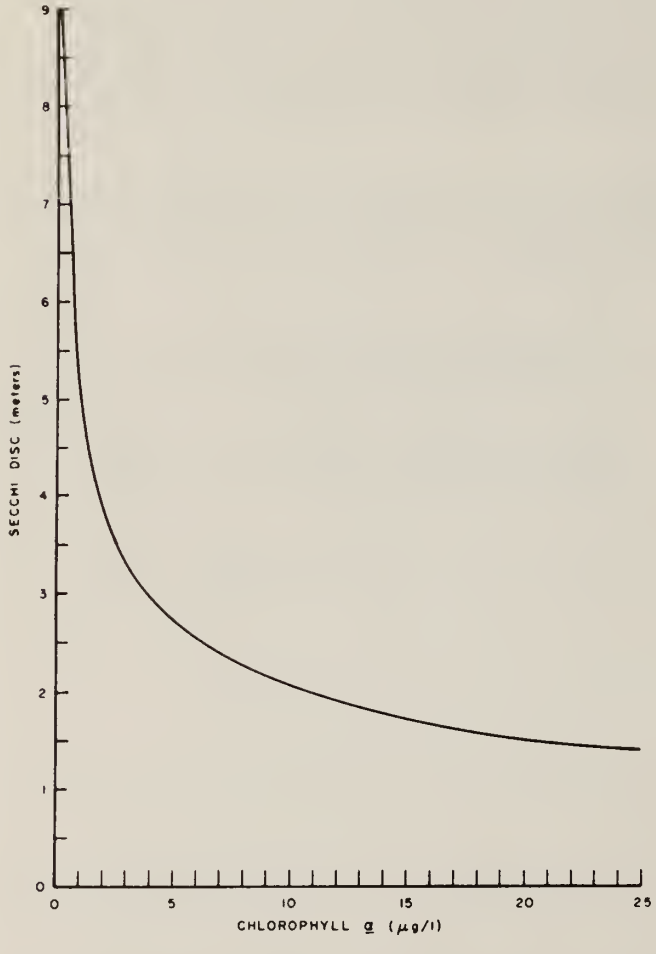

Figure 1: The relationship between Secchi disc and chlorophyll a for Kahshe Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Due to the absence of chlorophyll a data, it is not possible to plot Kahshe Lake on the above curve, to determine its enrichment status relative to other Southern Ontario lake. Continued participation in this program will allow a more accurate assessment of the lake trophic status to be made, and long-term water quality trends defined.

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Ontario

Ministry of the Environment

KASHAGAWIGAMOG LAKE

Dysart amd Minden Twps., Provisional County of Haliburton

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

e "Self-Help Programme" was initiated in 1971 in response to requests for water quality
reys from concerned cottagers on many recreational lakes throughout the Province.
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etively. (A more detailed explanation is provided in the publication on Eutrophication,
ih may be obtained from the address listed below). Volunteers are supplied with
mling kits, which includes a Secchi disc, a water sampler, bottles and instructions.
ricipants are asked to take Secchi disc readings and collect water samples biweekly
rng the ice-free period of the year. The water samples are shipped to the nearest
nistry of the Environment laboratory facilities where they are analyzed for chlorophyll
The true value of the programme is only realized if it is continued for a number of
a; in order to define longterm trends.

s l on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
c oured lakes have been grouped into approximate ranges to indicate the status of
r:hment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
r:hed	0-3 m	high algal densities	4 ug/l or more
d:ately enriched	3-5 m	moderate algal densities	2-4 ug/l
e:iched	5 m or more	low algal densities	0-2 ug/l

b: l: Secchi disc (m) and chlorophyll a (ug/l) data collected from Kashagawigamog Lake

Stn. - North S.D.	Stn. - North Chloro. a	Stn. - South S.D.
3	5.6	
9		4.0
5	4.5	
6	5.8	6.5
3	4.2	6.0
0		6.0
7	4.8	5.5
4		5.5
7		5.5
4		5.5
1		-
8	4.8	-
5	4.6	
	4.9	5.6

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The variation in Secchi disc readings was greater at the S. Kashagawigomog Stn., however no trend was apparent at either station. Based on the seasonal mean for this parameter, both stations would be considered unenriched, although S. Kashagawigamog Lake is less enriched than the north section of the lake.

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Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Kashagawigamog Lake from 1972 to 1977.

Year	Stn. - North S.D.	Chloro. a	Stn. - South S.D.	Chloro. a
1971				
* 1972	4.2	4.7		
1973	4.6	2.0	4.5	1.7
1974	4.4	1.4	4.2	1.5
1975	4.9	1.7	5.2	1.1
1976	4.0	2.7	4.5	1.3**
1977	4.9		5.6	
"				

* lake average
** based on two samplings

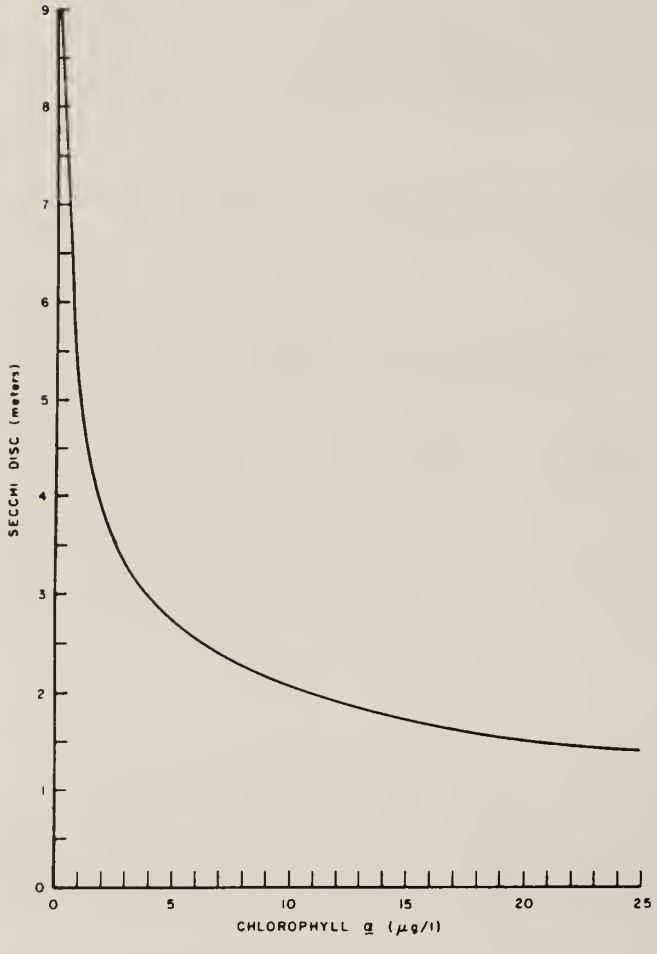

Figure 1: The relationship between Secchi disc and chlorophyll a for Kashagawaigamog La and a number of other well-known recreational lakes in the province. All data are seasonal means.

The variation in the average seasonal Secchi disc reading at both stations exhibit no trend and is attributable to natural fluctuation. This is characteristic of a stable lake condition. It is recommended that particiapation in this program be continued to ensure this trend persists.

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Ontario

KAWAGAMA LAKE

Provisional County of Haliburton

Ministry of the Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

e "Self-Help Programme" was initiated in 1971 in response to requests for water quality rveys from concerned cottagers on many recreational lakes throughout the Province. evious experience indicated that the enrichment status of a lake can be estimated latively easily by using Secchi disc readings and chlorophyll a concentrations (the een pigment in algae) to give an indication of water clarity and algal density re- ectively. (A more detailed explanation is provided in the publication on Eutrophication, ich may be obtained from the address listed below). Volunteers are supplied with mpling kits, which includes a Secchi disc, a water sampler, bottles and instructions. rticipants are asked to take Secchi disc readings and collect water samples biweekly ring the ice-free period of the year. The water samples are shipped to the nearest inistry of the Environment laboratory facilities where they are analyzed for chlorophyll a. The true value of the programme is only realized if it is continued for a number of ars in order to define longterm trends.

sed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in coloured lakes have been grouped into approximate ranges to indicate the status of richment.

Secchi disc (S.D.) (meters - m)	
riched	0-3 m
derately enriched	3-5 m
enriched	5 m or more

Chlorophyll a concentration (Chloro. a) (micrograms per litter - ug/l)	
high algal densities	4 ug/l or more
moderate algal densities	2-4 ug/l
low algal densities	0-2 ug/l

ble 1 on the attached page contains the Secchi disc data collected from the seven tions monitored on Kawagama Lake in 1977.

e filters used in chlorophyll a analysis caused a problem which resulted in some erroneous alytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

riations occurred in the Secchi disc readings at all of the stations sampled, however, no end is apparent. Based on the seasonal mean for this parameter, Kawagama Lake would be sidered unenriched, characterized by an extremely high degree of water transparency. e available data would indicate that the lake is one of the clearest, least enriched lakes hin the Central Region of M.O.E.

ere are distinct differences in lake quality between the stations sampled. The water ality at Stns. 3,4,5 & 7 is similar, and these are the least enriched areas of the lake. e quality at Stns. 2 and 6 is similar, being slightly more enriched than the previous tions, and Minden Bay where Stn. 1 is located is the most enriched section of the lake.

ble 2 on the attached page outlines the M.O.E. data collected in 1976 from Kawagama Lake, the data collected in 1977. Two years of data is insufficient to base any conclusions concerning trends in lake quality. It is recommended that participation in this program continued in order that sufficient data may be obtained to define long-term lake quality nds.

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ario Ministry of the Environment, Central Region, 150 Ferrand Drive, Don Mills, Ontario, 3C3 (416) 424-3000, Att'n. Mr. R. Shaw.

Table 1: Secchi disc (m) data collected from Kawagama Lake

Date	Stn. 1	Stn. 2	Stn. 3	Stn. 4	Stn. 5	Stn. 6	Stn. 7
Jul 4	-	-	9.5	5.3	10.0	7.5	12.0
Jul 11	6.0	-	-	-	11.5	-	11.0
Jul 17	6.5	8.5	-	-	-	5.5	-
Jul 21	-	-	10.3	-	12.5	-	9.5
Aug 1	4.5	7.2	6.0	11.8	10.5	8.0	-
Aug 8	5.0	-	-	-	-	-	-
Aug 14	4.6	7.8	-	11.0	10.5	7.0	8.8
Aug 21	4.5	-	-	-	9.5	-	9.5
Aug 28	-	-	-	-	-	7.5	
Mean	5.2	7.8	8.6	9.4	10.8	7.1	10.2

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected in 1976 and 1977

Year	Stn. 1		Stn. 2		Stn. 3		Stn. 4		Stn. 5		Stn. 6		Stn. 7	
	S.D.	Chl. a	S.D.	Chl. a	S.D.	Chl. a	S.D.	Chl. a	S.D.	Chl. a	S.D.	Chl. a	S.D.	Chl. a
1976	4.5	2.5	7.2	1.6	9.6	1.0	10.1	1.0	9.5	1.1	7.1	1.4	9.5	1.3
1977	5.2		7.8		8.6		9.4		10.8		7.1		10.2	

KENNAWAY LAKE
Harcourt Twp., Provisional
County of Haliburton

Ontario

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality
veys from concerned cottagers on many recreational lakes throughout the Province.
vious experience indicated that the enrichment status of a lake can be estimated
atively easily by using Secchi disc readings and chlorophyll a concentrations (the
en pigment in algae) to give an indication of water clarity and algal density re-
ctively. (A more detailed explanation is provided in the publication on Eutrophication,
ch may be obtained from the address listed below). Volunteers are supplied with
pling kits, which includes a Secchi disc, a water sampler, bottles and instructions.
ticipants are asked to take Secchi disc readings and collect water samples biweekly
ing the ice-free period of the year. The water samples are shipped to the nearest
istry of the Environment laboratory facilities where they are analyzed for chlorophyll
. The true value of the programme is only realized if it is continued for a number of
s in order to define longterm trends.

d on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
loured lakes have been grouped into approximate ranges to indicate the status of
chment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
iched	0-3 m	high algal densities	4 ug/l or more
erately enriched	3-5 m	moderate algal densities	2-4 ug/l
nriched	5 m or more	low algal densities	0-2 ug/l

e 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Kennaway Lake

	Stn. - Main S.D.	Chloro. a
23	5.0	
5	4.5	
12	5.0	
19	5.0	
26	5.0	
3	4.8	
10	4.5	
24	5.0	
1	4.0	
7	4.5	
28	4.5	
	4.7	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings exhibited only minor variation during the sampling period, ranging from 4.5 to 5.0 meters. Based on seasonal mean for this parameter of 4.7 meters, Kennaway Lake would be considered moderately enriched, characterized by a moderately high degree of water transparency.

0976 12/77

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Kennaway Lake from 1973 to 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973	4.1	3.3
1974	3.6	1.9
1975	3.8	2.7
1976	4.2	3.8
1977	4.7	

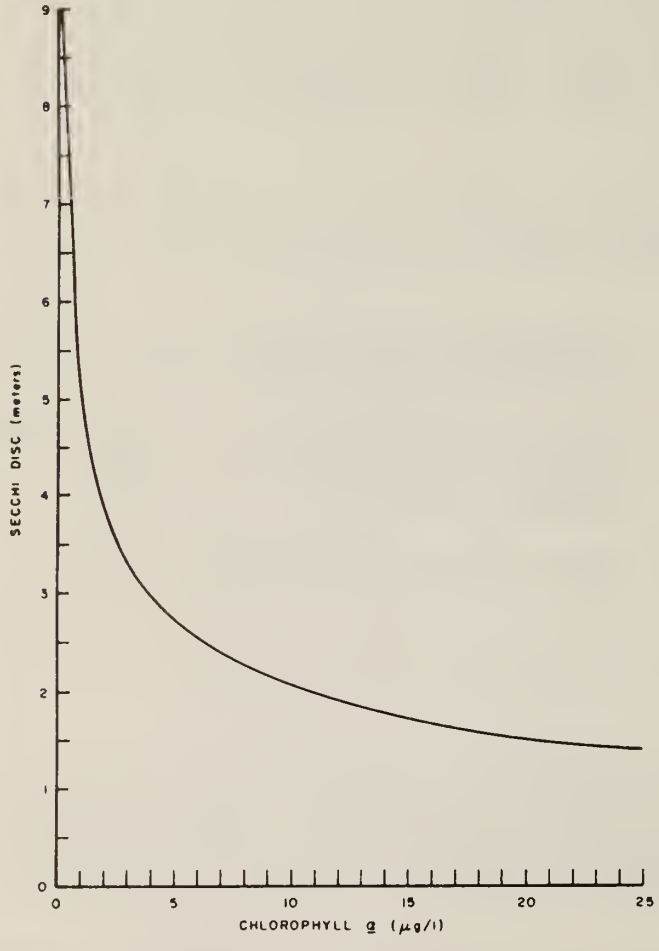

Figure 1: The relationship between Secchi disc and chlorophyll a for Kennaway Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Since 1974, the average seasonal Secchi disc reading has exhibited a small but co[illegible]s improvement. The existing data is insufficient to conclude whether this change i[illegible] an improvement in water quality, or whether it is the result of natural fluctuatio[illegible]s. is recommended that participation in this program be continued in order to define[illegible] long-term water quality trends.

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Ontario

Ministry of the Environment

KENNISIS LAKE

Havelock and Guilford Twps.,
Provisional County of Haliburton.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality veys from concerned cottagers on many recreational lakes throughout the Province. vious experience indicated that the enrichment status of a lake can be estimated atively easily by using Secchi disc readings and chlorophyll a concentrations (the en pigment in algae) to give an indication of water clarity and algal density re- ctively. (A more detailed explanation is provided in the publication on Eutrophication, ch may be obtained from the address listed below). Volunteers are supplied with pling kits, which includes a Secchi disc, a water sampler, bottles and instructions. ticipants are asked to take Secchi disc readings and collect water samples biweekly ing the ice-free period of the year. The water samples are shipped to the nearest istry of the Environment laboratory facilities where they are analyzed for chlorophyll The true value of the programme is only realized if it is continued for a number of rs in order to define longterm trends.

ed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in oloured lakes have been grouped into approximate ranges to indicate the status of ichment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
iched	0-3 m	high algal densities	4 ug/l or more
erately enriched	3-5 m	moderate algal densities	2-4 ug/l
nriched	5 m or more	low algal densities	0-2 ug/l

le 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Kennisis Lake

e	Stn. - A S.D.	Stn. - A Chloro. a	Stn. - B S.D.	Stn. - C S.D.
23	10.0		10.0	10.0
29	10.5		10.5	10.5
12	10.0		10.0	10.0
3	10.0		10.0	9.0
7	8.0		9.0	9.0
14	10.0		10.0	10.0
28	7.5		8.0	8.0
5	9.5		10.0	10.0
9	9.0		8.0	10.0
n	9.4		9.5	9.6

filters used in chlorophyll a analysis caused a problem which resulted in some erroneous a. The chlorophyll a data have been deleted from this year's report to avoid misrepresent- on.

trend is apparent in the Secchi disc readings from the three stations. Based on the sonal mean for this parameter, there is essentially no difference in water quality between three stations. Kennisis Lake is a very unenriched lake, characterized by an extremely h degree of water transparency, and it remains one of theleast enriched lake within the tral Region of the M.O.E.

E 0976 12/77

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Kennisis Lake from 1972 to 1977.

Year	Stn. - A S.D.	Stn. - A Chloro. a	Stn. - B S.D.	Stn. - B Chloro. a	Stn. - C S.D.	Stn. - C Chloro. a
1971						
1972	6.8	1.0	9.2	0.9	9.0	0.9
1973	7.8	0.7	9.5	0.8	9.5	0.8
1974	7.7	0.8	8.6	0.5	8.6	0.4
1975	9.5	1.0	10.0	0.6	10.5	0.8
1976	8.2	1.4	9.3	1.4	9.6	1.2
1977	9.4		9.5		9.6	

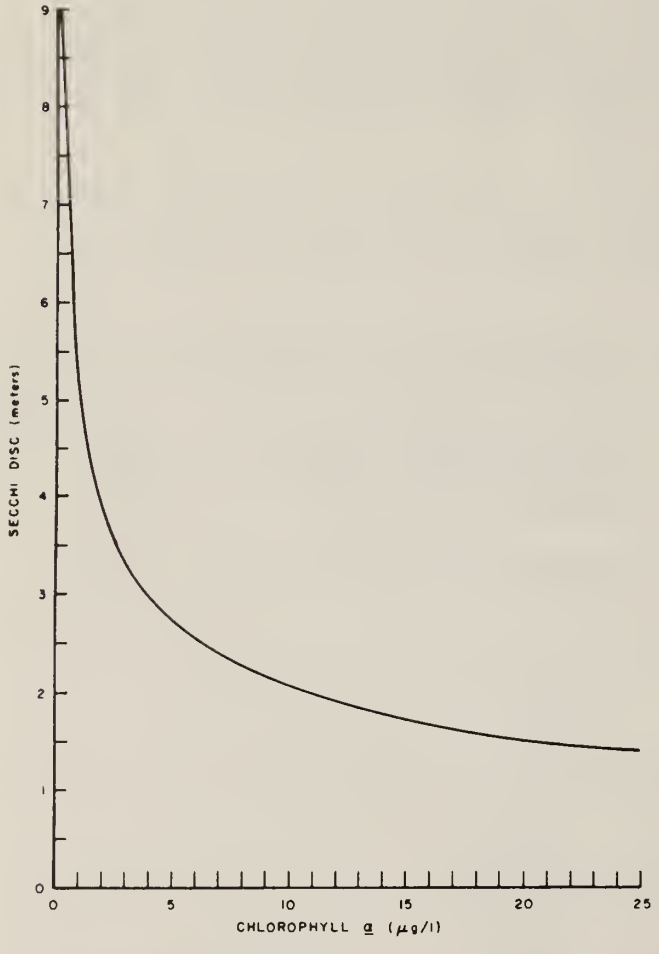

Figure 1: The relationship between Secchi disc and chlorophyll a for Kennisis Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The yearly variations in Secchi disc readings at Stn. A, B and C, outlined in Table 2 are primarily attributable to natural variations and indicate a stable lake condition. It is recommended that this program be continued on Kennisis Lake to ensure that this condition persists.

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Ontario

KENNIBIK LAKE
Dudley Twp., Provisional
County of Haliburton

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality veys from concerned cottagers on many recreational lakes throughout the Province. vious experience indicated that the enrichment status of a lake can be estimated atively easily by using Secchi disc readings and chlorophyll a concentrations (the en pigment in algae) to give an indication of water clarity and algal density re- ctively. (A more detailed explanation is provided in the publication on Eutrophication, ch may be obtained from the address listed below). Volunteers are supplied with pling kits, which includes a Secchi disc, a water sampler, bottles and instructions. ticipants are asked to take Secchi disc readings and collect water samples biweekly ing the ice-free period of the year. The water samples are shipped to the nearest istry of the Environment laboratory facilities where they are analyzed for chlorophyll . The true value of the programme is only realized if it is continued for a number of rs in order to define longterm trends.

ed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in oloured lakes have been grouped into approximate ranges to indicate the status of richment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
riched	0-3 m	high algal densities	4 ug/l or more
derately enriched	3-5 m	moderate algal densities	2-4 ug/l
nriched	5 m or more	low algal densities	0-2 ug/l

ble 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Kennibik Lake

e	Stn. A S.D.	Chloro. a	Stn. B S.D.	Chloro. a
y 4	5.3		5.5	
y 11	5.0		6.0	
y 18	6.5		6.0	
y 25	5.5		5.5	
. 1	5.0		5.0	
n	5.5		5.6	

filters used in chlorophyll a analysis caused a problem which resulted in some erroneous lytical data. The chlorophyll a data have deleted from this year's report to avoid irepresentation.

ed on the mean Secchi disc readings, there is no difference in lake quality between h two stations sampled. The available data would indicate that Kennibik Lake is an nriched lake characterized by a high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Kennibik Lake in 1977.

Year	Stn. - A S.D.	Stn. - A Chloro. a	Stn. - B S.D.	Stn. - B Chloro. a
1971				
1972				
1973				
1974				
1975				
1976				
1977	5.5		5.6	
"				

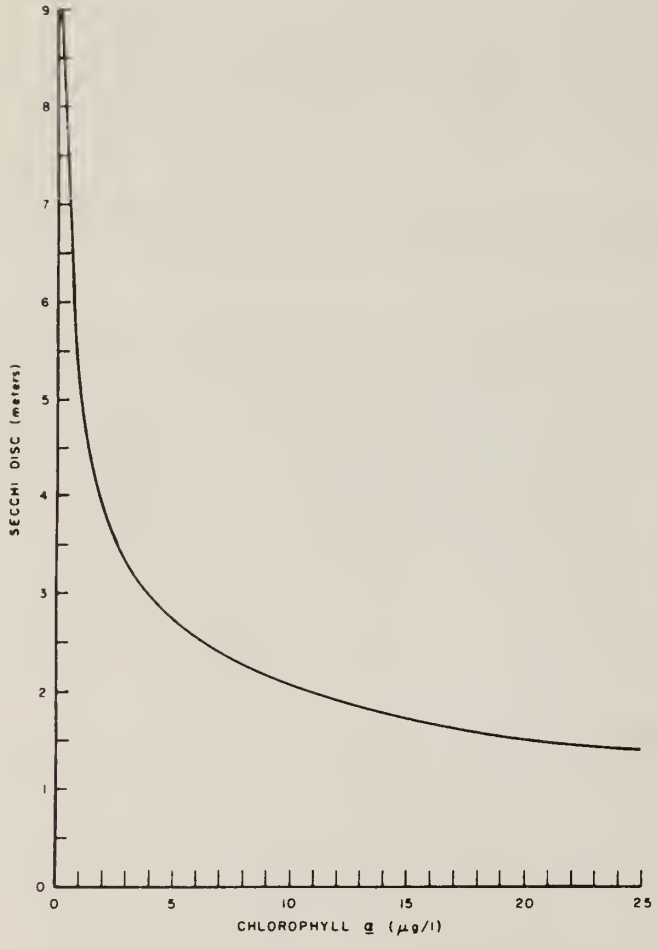

Figure 1: The relationship between Secchi disc and chlorophyll a for Kennibik Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Due to the absence of chlorophyll a data, it is not possible to plot Kennibik Lake on the above curve, to determine its enrichment status relative to other Southern Ontario lakes. Continued participation in this program will allow a more accurate assessment of the lake's trophic status to be made, and long-term water quality trends defined.

For additional copies of this report, please contact:
Ontario Ministry of the Environment, Central Region, 150 Ferrand Drive, Don Mills, Ontario M3C 3C3 (416) 424-3000, Att'n. Mr. R. Shaw

KOSHLONG LAKE

Glamorgan Twp., Provisional
County of Haliburton.

Ontario

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

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ed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in loured lakes have been grouped into approximate ranges to indicate the status of ichment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
iched	0-3 m	high algal densities	4 ug/l or more
erately enriched	3-5 m	moderate algal densities	2-4 ug/l
nriched	5 m or more	low algal densities	0-2 ug/l

le 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Koshlong Lake

	Stn. - Main (1) S.D.	Chloro. a	Stn. - 2 S.D.
29	6.8		6.5
12	6.2		6.0
24	7.5		6.0
7	8.0		7.5
14	7.5		7.0
21	6.0		6.0
28	7.0		7.0
5	7.0		7.0
10	9.0		8.0
	7.2		6.8

The filters in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chloraphyll a data have been deleted from this year's report to avoid misrepresentation.

The variation in the Secchi disc readings did not follow any trend, other than the highest reading at both stations was recorded in October. Based on the seasonal mean for this parameter, only a minor variation exists in water quality between the two stations. Koshlong Lake is an unenriched lake, characterized by a high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Koshlong Lake from 1973 to 1977.

Year	Stn. - Main S.D.	Chloro. a	Stn.- 2 S.D.	Chloro. a
1971				
1972				
1973	5.7	2.0		
1974	5.4	1.3		
1975	6.5	1.9		
* 1976	5.7	2.2		
1977	7.2		6.8	

"

* based on 2 samplings

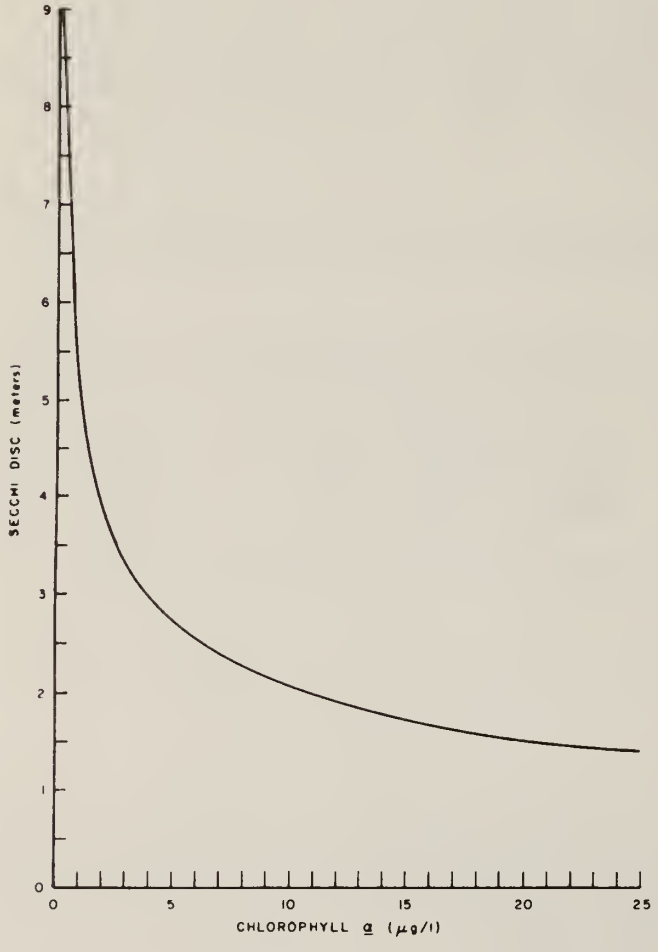

Figure 1: The relationship between Secchi disc and chlorophyll a for Koshlong Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The variations in Secchi disc readings, outlined in Table 2, are primarily attributable to natural fluctuations, and are indicative of a stable lake condition. It is recommended that participation in this program be continued to determine any long-term trends in water quality.

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Ontario

LAKE JOSEPH
Twp. of Muskoka Lakes,
District Municipality of
Muskoka

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality veys from concerned cottagers on many recreational lakes throughout the Province. vious experience indicated that the enrichment status of a lake can be estimated atively easily by using Secchi disc readings and chlorophyll a concentrations (the en pigment in algae) to give an indication of water clarity and algal density re- ctively. (A more detailed explanation is provided in the publication on Eutrophication, ch may be obtained from the address listed below). Volunteers are supplied with pling kits, which includes a Secchi disc, a water sampler, bottles and instructions. ticipants are asked to take Secchi disc readings and collect water samples biweekly ing the ice-free period of the year. The water samples are shipped to the nearest istry of the Environment laboratory facilities where they are analyzed for chlorophyll . The true value of the programme is only realized if it is continued for a number of rs in order to define longterm trends.

ed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in oloured lakes have been grouped into approximate ranges to indicate the status of richment.

	Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
iched	0-3 m		high algal densities	4 ug/l or more
derately enriched	3-5 m		moderate algal densities	2-4 ug/l
nriched	5 m or more		low algal densities	0-2 ug/l

le 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Lake Joseph

	Stn. - J7		Stn. - J8	Stn. A (Hallam)	Stn. B (Hallam)
e	S.D.	Chloro. a	S.D.	S.D.	S.D.
29	9.0	0.1	7.0	-	-
y 12	8.0	1.5	6.0	-	-
y 18	-	-	-	10.2	10.1
y 25	-	-	-	8.0	8.0
. 1	8.0	0.4	5.6	8.0	8.2
. 8	-	-	-	9.2	9.8
. 15	-	-	-	8.1	8.2
. 22	-	-	-	8.2	8.4
. 29	-	-	-	7.2	7.4
n	8.3	0.7	6.2	8.4	8.6

filters used in chlorophyll a analysis caused a problem which resulted in some erron- s data. The chlorophyll a data have been deleted from this year's report to avoid epresentation.

ed on the mean seasonal Secchi disc reading, there is no difference in lake quality eveen Stn. J7, Stn. A & Stn. B. These stations would be considered unenriched, character- zed by a very high degree of water transparency. Stn. J8, would also be considered unenrich- though it is more enriched than the other three stations.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Lake Joseph from 1970 to 1977.

Year	Stn. - J7 S.D.	Chloro. a	Stn. - J8 S.D.	Chloro. a	Stn. - A (Hallam) S.D.	Chloro. a	Stn. B (Hallam) S.D.	Chloro. a
*1970	8.1	1.0	5.8	2.5				
1971								
1972								
1973								
1974	7.0	0.5						
1975								
1976	8.2	1.4	6.2	2.2				
1977	8.3		6.2		8.4		8.6	
"								

* MOE data

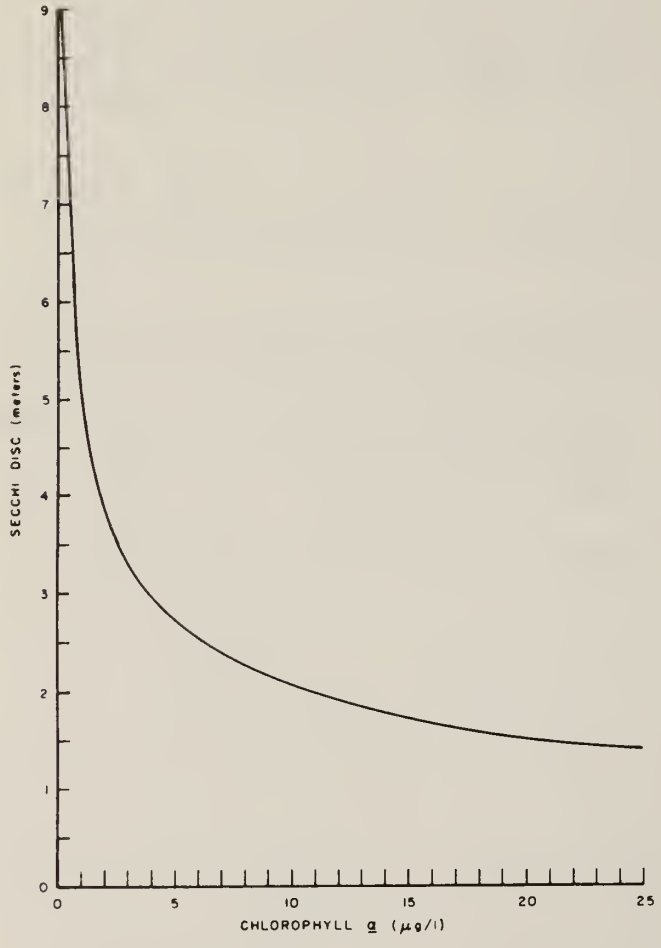

Figure 1: The relationship between Secchi disc and chlorophyll a for Lake Joseph and a number of other well-known recreational lakes in the province. All data are seasonal means.

The variations in the mean yearly Secchi disc readings, outlined in Table 2, are primarily attributable to natural annual fluctuation. Continued participation in this program is required to determine long-term lake quality trends.

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LAKE MUSKOKA
Twp. of Muskoka Lakes
District Municipality of
Muskoka

Ontario

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

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ed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in loured lakes have been grouped into approximate ranges to indicate the status of ichment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
iched	0-3 m	high algal densities	4 ug/l or more
erately enriched	3-5 m	moderate algal densities	2-4 ug/l
riched	5 m or more	low algal densities	0-2 ug/l

le 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Lake Muskoka

	Stn. - M1 S.D.	Chloro. a	Stn. - M2 S.D.	Stn. - M3 S.D.	Stn. - M4 S.D.
11	4.0		6.0	7.0	5.5
g 1	4.5		6.0	6.0	5.5
p. 4	5.0		5.0	6.0	6.0
a	4.5		5.7	6.3	5.7

filters used in chlorophyll a analysis caused a problem which resulted in some erroneous ytical data. The chlorophyll a data have been deleted from this year's report to avoid epresentation.

e samples were collected on only three occasions it is difficult to obtain a reasonably rate assessment of Lake Muskoka's trophic status. Based on the means of the available t, the main body of the lake (M2, M3 & M4) would be considered unenriched with only minor ations in water quality existing between these stations.

ion M1, located in Muskoka Bay would be considered moderately enriched, characterized moderately high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Lake Muskoka in 1970 & 77.

Year	Stn. M1 S.D.	Chloro. a	Stn. - M2 S.D.	Chloro. a	Stn. - M3 S.D.	Chloro. a	Stn. - M4 S.D.	Chloro. a
*1970	2.8	8.6	4.5	2.1	4.6	1.9	5.1	1.5
1971								
1972								
1973								
1974								
1975								
1976								
1977	4.5		5.7		6.3		5.7	
"								

* MOE data

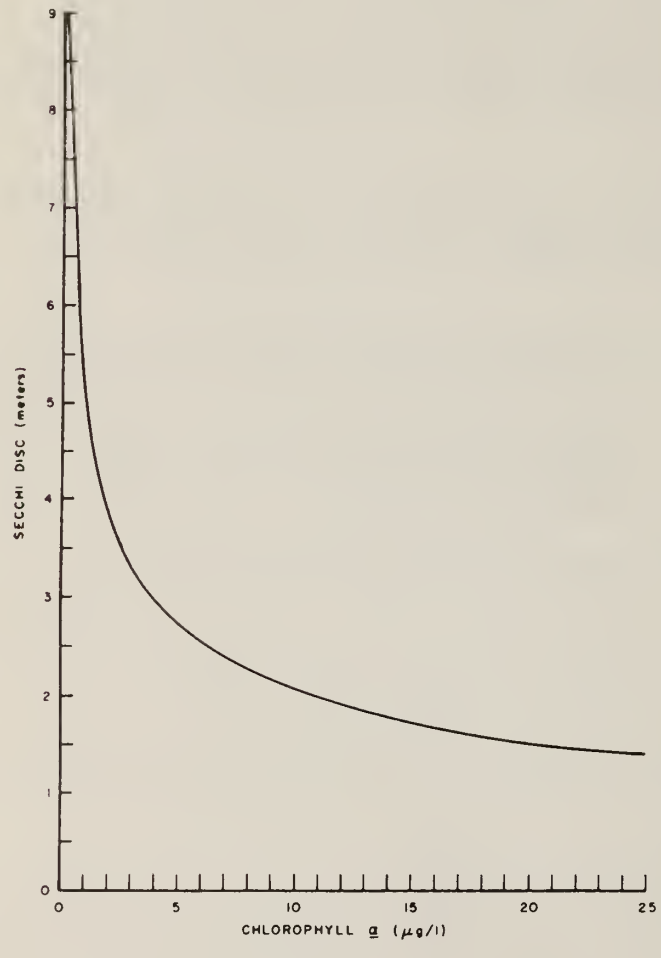

Figure 1: The relationship between Secchi disc and chlorophyll a for Lake Muskoka and a number of other well-known recreational lakes in the province. All data are seasonal means.

The two years of data from Lake Muskoka is insufficient to draw any conclusions from regarding lake trends. Continued participation in this program, with more frequent sampling, is required, if sufficient data is to be obtained to examine long-term trens in lake quality.

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Ontario

LAKE OF BAYS

Twp. of Lake of Bays, District
Municipality of Muskoka.

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

e "Self-Help Programme" was initiated in 1971 in response to requests for water quality rveys from concerned cottagers on many recreational lakes throughout the Province. evious experience indicated that the enrichment status of a lake can be estimated latively easily by using Secchi disc readings and chlorophyll a concentrations (the een pigment in algae) to give an indication of water clarity and algal density re- ectively. (A more detailed explanation is provided in the publication on Eutrophication, ich may be obtained from the address listed below). Volunteers are supplied with mpling kits, which includes a Secchi disc, a water sampler, bottles and instructions. rticipants are asked to take Secchi disc readings and collect water samples biweekly ring the ice-free period of the year. The water samples are shipped to the nearest inistry of the Environment laboratory facilities where they are analyzed for chlorophyll a. The true value of the programme is only realized if it is continued for a number of ars in order to define longterm trends.

sed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in coloured lakes have been grouped into approximate ranges to indicate the status of richment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per litter - ug/l)	
riched	0-3 m	high algal densities	4 ug/l or more
derately enriched	3-5 m	moderate algal densities	2-4 ug/l
enriched	5 m or more	low algal densities	0-2 ug/l

ble 1 on the attached page contains the Secchi disc data collected from the seven stations nitored in 1977.

e filters used in chlorophyll a analysis caused a problem which resulted in some erroneous alytical data. The chlorophyll a data have been deleted from this year's report to avoid srepresentation.

riations occurred in the Secchi disc readings at all stations during the sampling period; wever, no trend is apparent. Based on the seasonal mean for this parameter, Lake of Bays uld be considered unenriched. characterized by a very high degree of water transparency. e status of the lake appears to be similar to that of Lake Joseph, one of the least riched lakes in Muskoka.

ere are variations in lake quality between the stations monitored; however, they are t significant in terms of the lake's overall status. The available data would indicate at Stn. 2 in Trading Bay, Stn. 7 & Stn. 5 are the least enriched areas of the lake. The maining four stations are slightly more enriched than these three.

ntinued participation in this program will enable a more accurate assessment of the lake's ophic status to be made, and any long-term trends in water quality to be defined.

r additional copies of this report, please contact:
tario Ministry of the Environment, Central Region, 150 Ferrand Drive, Don Mills, Ontario,
C 3C3 (416) 424-3000, Att'n Mr. R. Shaw.

Table 1: Secchi disc (m) data collected from Lake of Bays

Date	Stn. 2	Stn. 4	Stn. 5	Stn. 6	Stn. 7	Stn. 10	Stn. 12
May 23	6.5	6.0	7.5	5.8	7.5	5.5	4.8
Jun 5	7.5	7.5	6.5	6.7	7.5	6.0	5.5
Jun 19	-	6.0	6.3	-	-	5.0	7.0
Jul 3	-	7.0	6.8	6.0	6.0	6.5	6.3
Jul 17	7.5	6.0	7.0	6.5	8.0	6.5	7.0
Aug 1	7.5	7.0	6.5	6.0	6.5	5.5	6.6
Aug 14	8.5	7.0	7.5	7.0	9.0	7.0	7.5
Aug 28	-	5.5	7.5	6.5	7.5	7.0	7.0
Oct 10	-			6.0			
Mean	7.5	6.5	7.0	6.3	7.4	6.1	6.5

Ontario

LAKE ROSSEAU
Twp. of Muskoka Lakes,
District Municipality of
Muskoka.

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

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ed	0-3 m	high algal densities	4 ug/l or more
tely enriched	3-5 m	moderate algal densities	2-4 ug/l
ched	5 m or more	low algal densities	0-2 ug/l

el: Secchi disc (m) and chlorophyll a (ug/l) data collected from Lake Rosseau

Stn. - R5 S.D.	Stn. - R5 Chloro. a	Stn. - R6 S.D.
5.0		6.0
5.0		4.0
4.0		5.0
5.0		4.0
4.8		4.8

lters used in chlorophyll a analysis caused a problem which resulted in some erron-
nalytical data. The chlorophyll a data have been deleted from this year's report
d misrepresentation.

samples were collected on only four occasions in 1977, it is difficult to obtain a
bly accurate assessment of the lake's tropic status. Based on the available data,
sseau would be considered moderately enriched, characterized by a moderately high
of water transparency.

976 12/77

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Lake Rosseau from 1970 to 1977.

Year	Stn. - R5 S.D.	Chloro. a	Stn. - R6 S.D.	Chloro.a
1970	6.3	1.7	5.3	1.5
1971				
1972				
1973				
1974	6.4	0.7		
1975				
*1976	6.1	1.8		
1977	4.8		4.8	
"				

* based on 1 sample

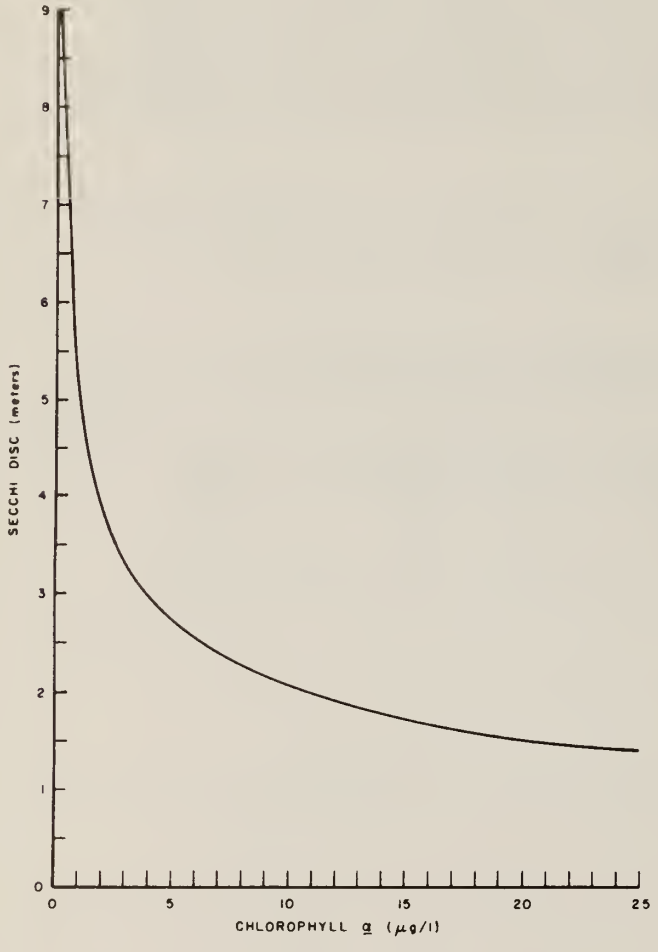

Figure 1: The relationship between Secchi disc and chlorophyll a for Lake Rosseau and a number of other well-known recreational lakes in the province. All data are seasonal means.

Whether the decreased water transparency measured in 1977 is due to an alteration of lake quality or natural fluctuation, cannot be determined from the available data. Continued participation in this program, with more frequent sampling, is required to determine long term water quality trends.

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Ontario

LAKE VERNON
Town of Huntsville, District
Municipality of Muskoka

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

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ecchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ed	0-3 m	high algal densities	4 ug/l or more
tely enriched	3-5 m	moderate algal densities	2-4 ug/l
ched	5 m or more	low algal densities	0-2 ug/l

l: Secchi disc (m) and chlorophyll a (ug/l) data collected from Lake Vernon

	Stn. S.D.	Main Chloro. a
12	3.0	
26	4.0	
11	3.8	
24	4.0	
7	4.0	
21	4.0	
11	3.7	
25	3.0	
	3.7	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings remained relatively constant during the sampling period, varying from 3.0 to 4.0 meters. Based on the seasonal mean for this parameter, Lake Vernon would be considered moderately enriched, characterized by a moderate degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Lake Vernon in 1974, 1975 and 1977.

Year	Stn. S.D.	Main Chloro. a
1971		
1972		
1973		
*1974	4.0	0.7
1975	2.9	1.8
1976	-	-
1977	3.7	
	"	

* based on one sampling.

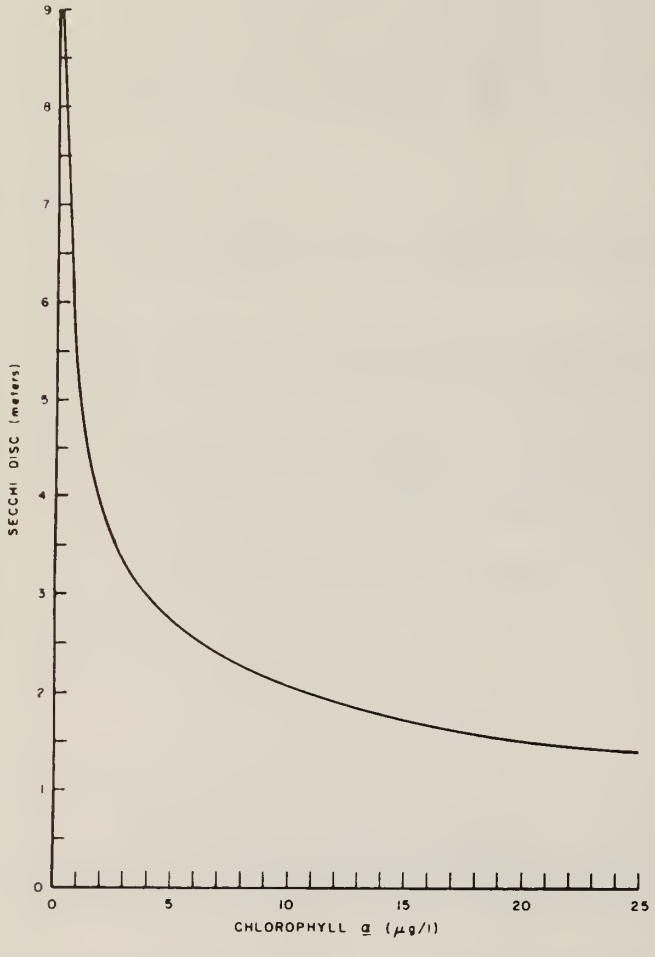

Figure 1: The relationship between Secchi disc and chlorophyll a for Lake Vernon and a number of other well-known recreational lakes in the province. All data are seasonal means.

The increased water transparency in 1977 is probably the result of natural fluctuations and not an actual improvement in lake quality. Continued participation in this program is recommended in order to define long=term water quality trends.

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Ontario

Ministry of the Environment

LEECH LAKE

Town of Bracebridge, District Municipality of Muskoka.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

elf-Help Programme" was initiated in 1971 in response to requests for water quality s from concerned cottagers on many recreational lakes throughout the Province. us experience indicated that the enrichment status of a lake can be estimated vely easily by using Secchi disc readings and chlorophyll a concentrations (the pigment in algae) to give an indication of water clarity and algal density re- ively. (A more detailed explanation is provided in the publication on Eutrophication, may be obtained from the address listed below). Volunteers are supplied with ng kits, which includes a Secchi disc, a water sampler, bottles and instructions. ipants are asked to take Secchi disc readings and collect water samples biweekly the ice-free period of the year. The water samples are shipped to the nearest ry of the Environment laboratory facilities where they are analyzed for chlorophyll e true value of the programme is only realized if it is continued for a number of in order to define longterm trends.

on experience, mean annual Secchi disc readings and chlorophyll a concentrations in ured lakes have been grouped into approximate ranges to indicate the status of ment.

ecchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ed	0-3 m	high algal densities	4 ug/l or more
tely enriched	3-5 m	moderate algal densities	2-4 ug/l
ched	5 m or more	low algal densities	0-2 ug/l

el: Secchi disc (m) and chlorophyll a (ug/l) data collected from Leech Lake

Stn. - A (N. Bay) S.D.	Chloro. a	Stn. - B (E. Bay) S.D.	Stn. - C (W. Bay) S.D.
-		4.5	-
6.0		5.5	6.0
5.0		5.3	5.3
5.3		5.3	5.3
5.5		5.0	5.8
5.8		-	-
5.0		5.0	5.5
5.0		4.5	4.5
5.4		5.0	5.4

ters used in chlorophyll a analysis caused a problem which resulted in some us analytical data. The chlorophyll a data have been deleted from this year's to avoid misrepresentation.

from the mean seasonal Secchi disc readings, little variation in water quality between the three stations sampled. Based on this parameter, Leech Lake would idered unenriched, characterized by a high degree of water transparency.

976 12/77

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Leech Lake from in 1977.

Year	Stn. - A (N. Bay) S.D.	Chloro. a	Stn. - B (E. Bay) S.D.	Stn. - C (W. Bay) S.D.
1971				
1972				
1973				
1974				
1975				
1976				
1977	5.4		5.0	5.4

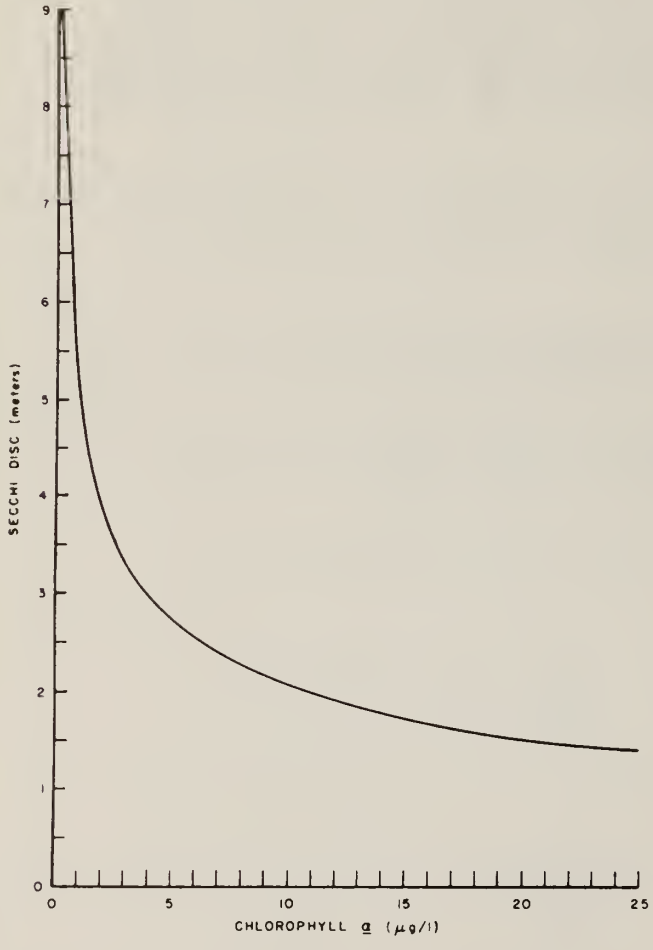

Figure 1: The relationship between Secchi disc and chlorophyll a for Leech Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Due to the absence of chlorophyll a data, it is not possible to plot Leech Lake on the above curve, to determine its enrichment status relative to other Southern Ontario lakes, Continued participation in this program will enable a more accurate assessment of the lake's trophic status to be made, and any long-term lake quality trends to be defined.

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Ontario

Ministry of the Environment

LEONARD LAKE

Twp. of Muskoka Lakes, District Municipality of Muskoka.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

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the ice-free period of the year. The water samples are shipped to the nearest
ry of the Environment laboratory facilities where they are analyzed for chlorophyll
e true value of the programme is only realized if it is continued for a number of
in order to define longterm trends.

on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
ured lakes have been grouped into approximate ranges to indicate the status of
ment.

ecchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ed	0-3 m	high algal densities	4 ug/l or more
tely enriched	3-5 m	moderate algal densities	2-4 ug/l
ched	5 m or more	low algal densities	0-2 ug/l

1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Leonard Lake

Stn. - A (N. Bay) S.D.	Chloro. a	Stn. - B (S. Bay) S.D.
6.0		6.0
7.3		6.0
6.3		-
6.0		4.5
5.0		4.3
5.5		-
6.0		5.2

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

Based on the mean seasonal Secchi disc readings, only a minor variation in lake quality exists between the two stations sampled. Both stations sampled would be considered unenriched on the basis of this parameter, although the North Bay is less enriched than the South Bay, as evidenced by the greater degree of water transparency at that station.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from

Year	Stn. - A (N. Bay) S.D.	Chloro. a	Stn. - (S. Bay) S.D.
1971	5.3	1.8	
1972			
1973			
1974			
1975	5.3	1.5	
1976	6.5	1.7 **	
1977	6.0		5.2

* MOE data
** based on one sampling

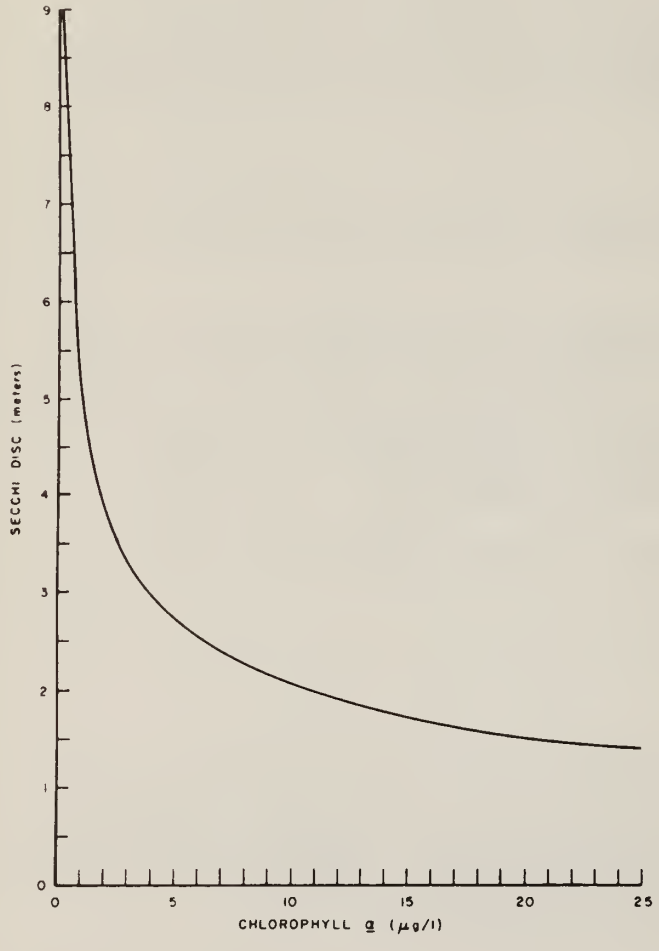

Figure 1: The relationship between Secchi disc and chlorophyll a for Leonard Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The variations in the yearly mean Secchi disc readings, outlined in Table 2, are primarily attibutable to natural annual fluctuations. Continued participation in this program is recommended, to ensure that the relatively stable trophic condition of Leonard Lake persists.

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Ministry of the Environment

LITTLE KENNISIS LAKE

Havelock Twp., Provisional
County of Haliburton

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

elf-Help Programme" was initiated in 1971 in response to requests for water quality
s from concerned cottagers on many recreational lakes throughout the Province.
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e true value of the programme is only realized if it is continued for a number of
in order to define longterm trends.

on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
ured lakes have been grouped into approximate ranges to indicate the status of
ment.

ecchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ed	0-3 m	high algal densities	4 ug/l or more
tely enriched	3-5 m	moderate algal densities	2-4 ug/l
ched	5 m or more	low algal densities	0-2 ug/l

l: Secchi disc (m) and chlorophyll a (ug/l) data collected from Little Kennisis Lake.

Stn. - Main S.D.	Chloro. a
3	6.0
9	6.0
6	5.5
3	5.5
7	6.0
4	6.0
8	7.5
5	7.5
	6.3

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc reading varied from 5.5 to 7.5 meters during the sampling period, and no trend was apparent. Based on the seasonal mean for this parameter, Little Kennisis Lake would be considered unenriched characterized by a high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Little Kennisis Lake from 1972 to 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972	4.5	1.6
1973	4.8	1.1
1974	5.3	1.1
1975	5.5	1.0
1976	5.3	2.0
1977	6.3	

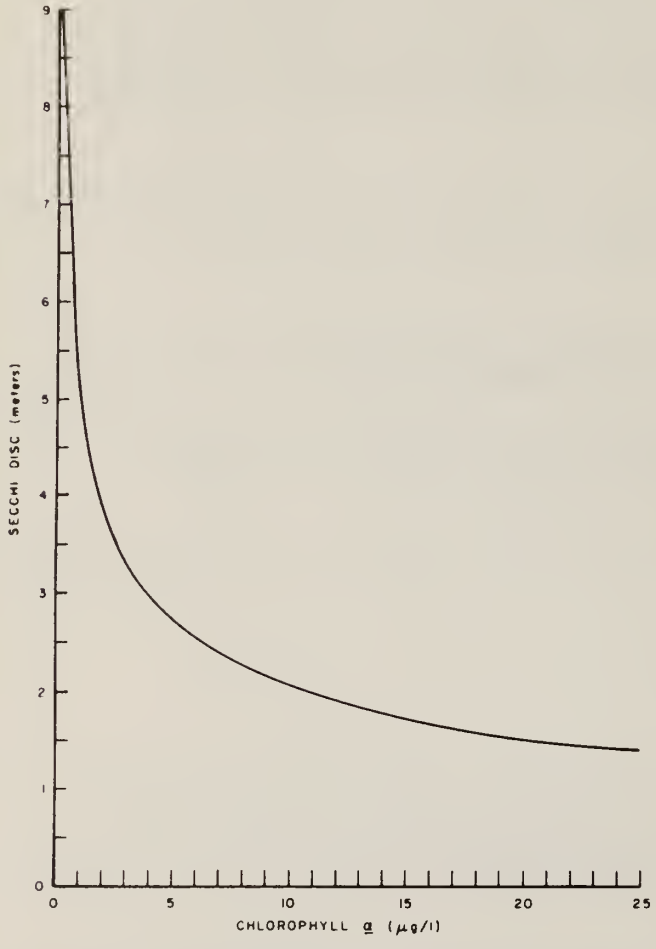

Figure 1: The relationship between Secchi disc and chlorophyll a for Little Kennisis Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Since the commencement of this program on Little Kennisis Lake in 1972, the average seasonal Secchi disc reading has increased. This could indicate an improvement in lake quality, or could be the result of natural fluctuations. Continued participation in the program is recommended to determine long-term lake trends.

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Ministry of the Environment

LITTLE LONG LAKE

Twp. of Muskoka Lakes, District Municipality of Muskoka.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

elf-Help Programme" was initiated in 1971 in response to requests for water quality s from concerned cottagers on many recreational lakes throughout the Province. us experience indicated that the enrichment status of a lake can be estimated vely easily by using Secchi disc readings and chlorophyll a concentrations (the pigment in algae) to give an indication of water clarity and algal density re- vely. (A more detailed explanation is provided in the publication on Eutrophication, may be obtained from the address listed below). Volunteers are supplied with ng kits, which includes a Secchi disc, a water sampler, bottles and instructions. ipants are asked to take Secchi disc readings and collect water samples biweekly the ice-free period of the year. The water samples are shipped to the nearest ry of the Environment laboratory facilities where they are analyzed for chlorophyll e true value of the programme is only realized if it is continued for a number of in order to define longterm trends.

on experience, mean annual Secchi disc readings and chlorophyll a concentrations in ured lakes have been grouped into approximate ranges to indicate the status of ment.

ecchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ed	0-3 m	high algal densities	4 ug/l or more
tely enriched	3-5 m	moderate algal densities	2-4 ug/l
ched	5 m or more	low algal densities	0-2 ug/l

l: Secchi disc (m) and chlorophyll a (ug/l) data collected from Little Long Lake

Stn. - Main	
S.D.	Chloro. a
4.5	The filters used in chlorophyll a analysis caused a problem
4.8	which resulted in some erroneous data. The chlorophyll a
	data has been deleted from this year's report to avoid
4.6	misrepresentation.

Insufficient data was collected to allow a meaningful conclusion to be reached.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Little Long Lake

Year	Stn. S.D.	Chloro. a
1971		
1972		
1973		
1974		
1975		
1976		
1977	4.6	
"		

* based on 2 samples

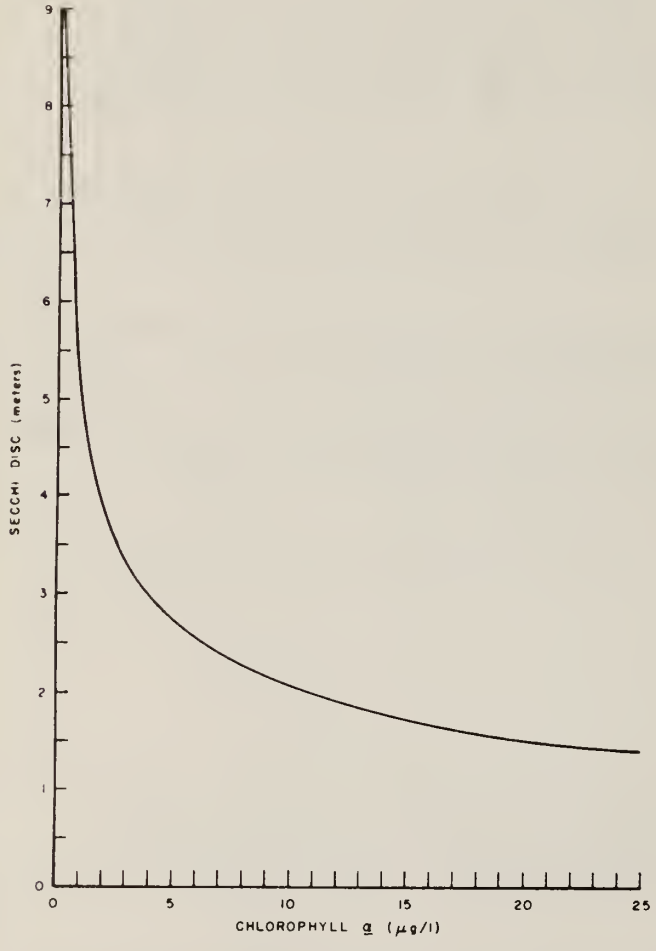

Figure 1: The relationship between Secchi disc and chlorophyll a for Little Long Lak and a number of other well-known recreational lakes in the province. All data are seasonal means.

Continuation of this program, with more frequent sampling, is required before the tropic status of Little Long Lake can be determined.

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Ministry of the
Environment

LITTLE STRAGGLE LAKE

Harcourt Twp., Provisional
County of Haliburton.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

Self-Help Programme" was initiated in 1971 in response to requests for water quality
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Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ned	0-3 m	high algal densities	4 ug/l or more
ately enriched	3-5 m	moderate algal densities	2-4 ug/l
iched	5 m or more	low algal densities	0-2 ug/l

1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Little Straggle Lake

Stn. - Main	
S.D.	Chloro. a
3	4.8
5	5.0
2	5.5
9	6.0
6	5.5
0	5.0
7	5.5
4	5.0
1	5.0
7	5.0
4	4.0
1	5.0
3	5.0
5	6.0
1	6.5
5	5.5
	5.3

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings varied from 4.0 to 6.5 meters during the sampling period, and no trend was apparent. Based on the seasonal mean for this parameter, Little Straggle Lake would be considered unenriched, characterized by a high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Little Straggle Lake from 1973 to 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973	3.8	2.9
1974	3.6	1.6
1975	5.3	2.4
1976	4.1	2.2
1977	5.3	

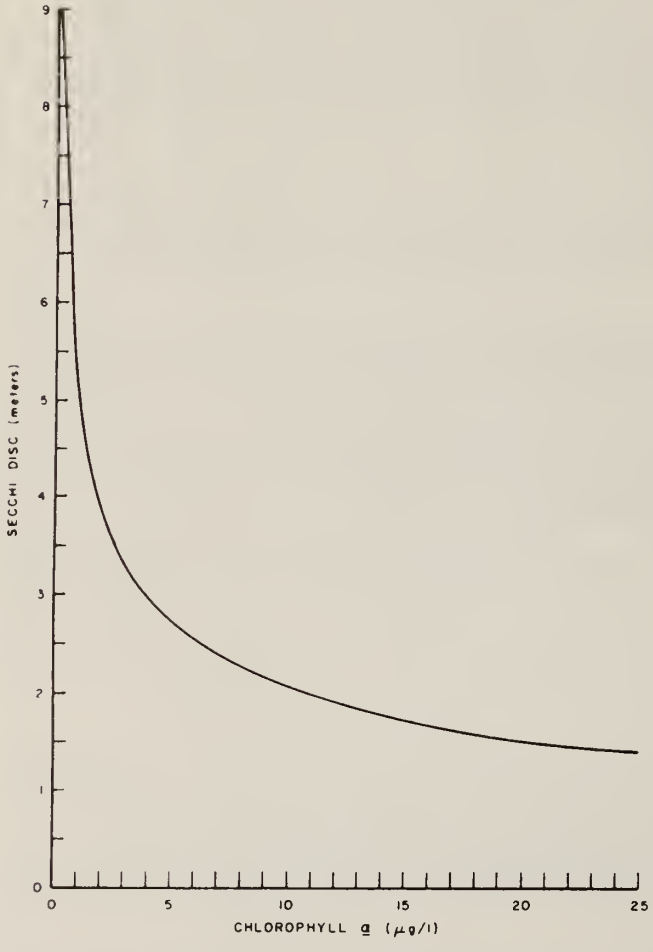

Figure 1: The relationship between Secchi disc and chlorophyll a for Little Straggl La and a number of other well-known recreational lakes in the province. All data are seasonal means.

Since commencement of this program in 1973 on Little Straggle Lake, the mean seasonal Secchi disc readings have varied from 3.6 to 5.3 meters. This variation is probably attributable to natural fluctuations, and is not indicative of an alteration in lake quality. Continued participation in this program will be required to determine long-term lake quality trends.

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Ontario

Ministry of the Environment

LONG LAKE

Monmouth Twp., Provisional County of Haliburton.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

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ured lakes have been grouped into approximate ranges to indicate the status of
ment.

ecchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ed	0-3 m	high algal densities	4 ug/l or more
tely enriched	3-5 m	moderate algal densities	2-4 ug/l
ched	5 m or more	low algal densities	0-2 ug/l

l: Secchi disc (m) and chlorophyll a (ug/l) data collected from Long Lake

Stn. - Main S.D.	Chloro. a
2.5	
3.5	
4.0	
5.0	
4.0	
3.5	
3.5	
3.5	
3.5	
4.0	
4.0	
4.0	
4.0	
4.0	
3.8	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings varied from 2.5 to 5.0 meters during the sampling period, and no trends are apparent. Based on the seasonal mean for this parameter of 3.8 meters, Long Lake would be considered moderately enriched, characterized by a moderate degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Long Lake from 1976 and 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973		
1974		
1975		
1976	3.8	2.3
1977	3.8	
"		

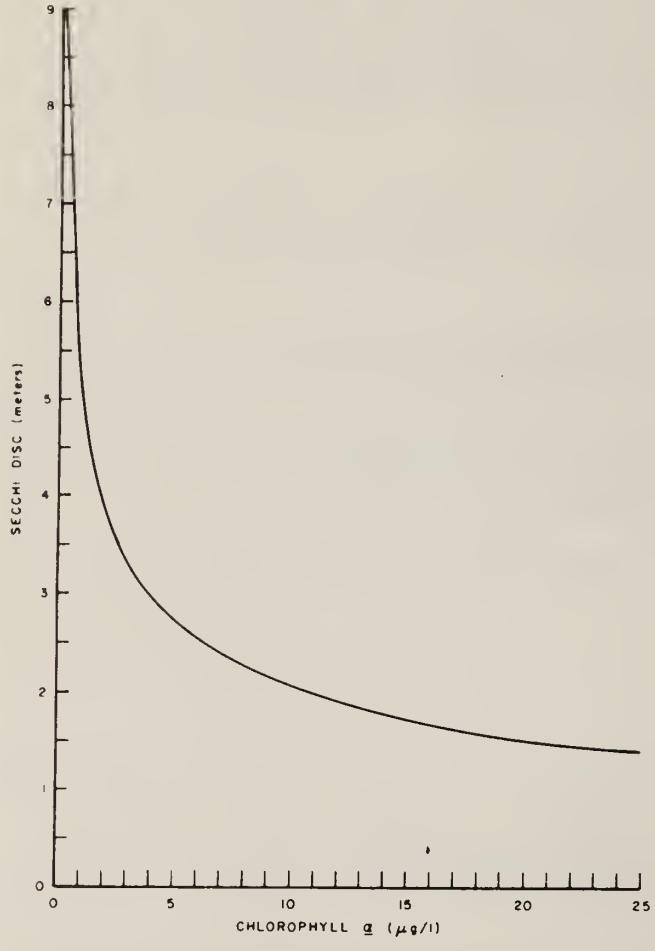

Figure 1: The relationship between Secchi disc and chlorophyll a for Long Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The two year's of data from Long Lake is insufficient to draw any definite conclusion from regarding lake trends, although, the available data would indicate a stable lke condition. Continued participation in this program is required if sufficient datais to be obtained to examine long-term trends in lake quality.

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Ministry of the Environment

LONG LAKE

Twp. of Muskoka Lakes,
District Municipality of Muskoka.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

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ied	0-3 m	high algal densities	4 ug/l or more
tely enriched	3-5 m	moderate algal densities	2-4 ug/l
ched	5 m or more	low algal densities	0-2 ug/l

l: Secchi disc (m) and chlorophyll a (ug/l) data collected from Long Lake

	Stn. - Main S.D.	Chloro. a
)	4.6	
3	5.8	
'	6.0	
'	5.8	
)	4.0	
	5.2	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings varied from 4.0 to 6.0 meters during the sampling period, and no trend was apparent. Based on the season mean for this parameter, Long Lake would be considered unenriched, characterized by a high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Long Lake in 1976 and 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973		
1974		
1975		
1976	5.5	1.9
1977	5.2	
"		

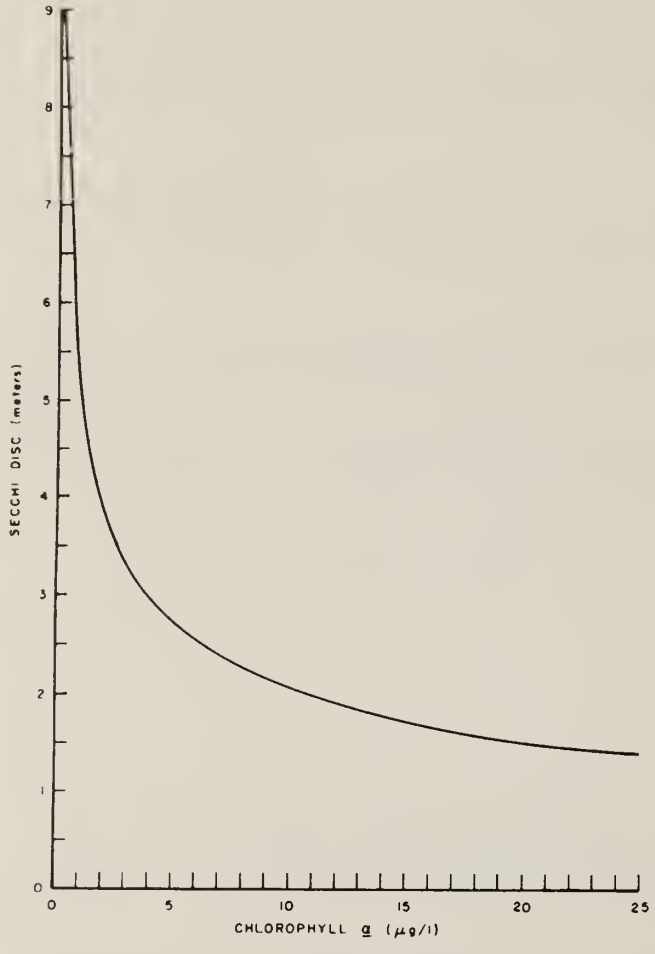

Figure 1: The relationship between Secchi disc and chlorophyll a for and a number of other well-known recreational lakes in the province. All data are seasonal means.

The two year's of data from Long Lake is insufficient to draw any definite conclusion from regarding lake trends. Continued participation in this program is required, f sufficient data is to be obtained to examine long-term trends in lake quality.

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Ontario

LONG LAKE

Dudley Twp., Provisional
County of Haliburton.

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

Self-Help Programme" was initiated in 1971 in response to requests for water quality
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ied	0-3 m	high algal densities	4 ug/l or more
tely enriched	3-5 m	moderate algal densities	2-4 ug/l
ched	5 m or more	low algal densities	0-2 ug/l

l: Secchi disc (m) and chlorophyll a (ug/l) data collected from Long Lake

Stn. - 1 S.D.	Stn. - 2 S.D.
5.5	7.3
5.8	6.5
5.5	5.5
5.5	5.5
5.5	5.5
6.0	5.0
6.0	5.5
5.5	6.5
5.5	7.5
5.6	6.1

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

Judging from the mean seasonal Secchi disc readings, only a minor difference in water quality exists between the two stations sampled. Based on the available data, both stations would be considered unenriched, characterized by a high degree of water transparency. The enrichment status of Stn. 2 appears to be slightly less than Stn. 1, as evidenced by its high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Long Lake in 1977.

Year	Stn. - 1 S.D.	Stn. - 1 Chloro. a	Stn. - 2 S.D.	Stn. - 2 Chloro. a
1971				
1972				
1973				
1974				
1975				
1976				
1977	5.6		6.1	
"				

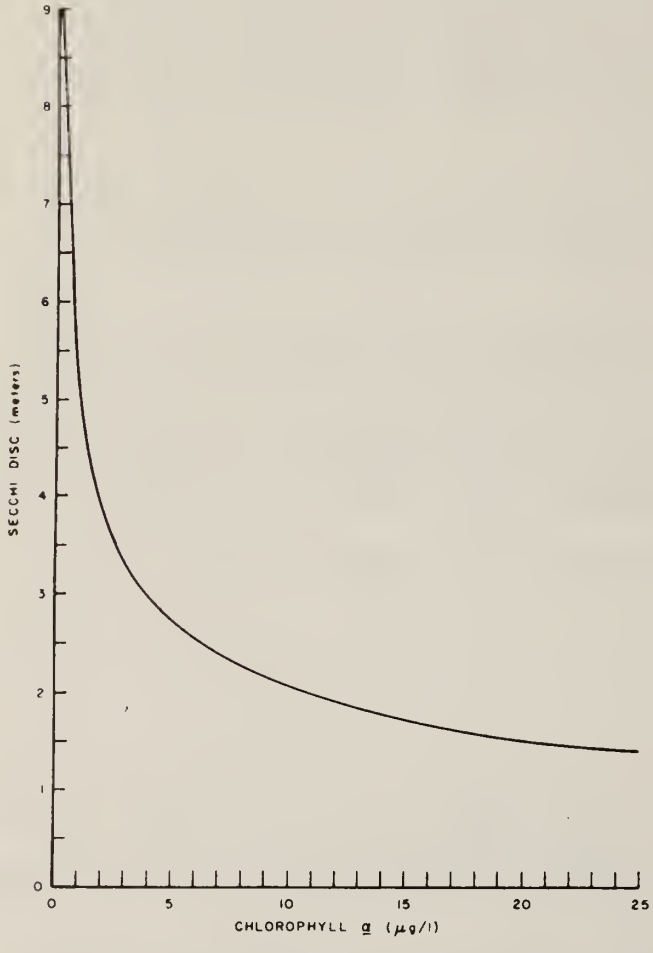

Figure 1: The relationship between Secchi disc and chlorophyll a for Long Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Due to the absence of chlorophyll a data, it is not possible to plot Long Lake on the above curve, to determine its enrichment status relative to other Southern Ontario lakes. Continued participation in this program will allow a more accurate determination of the trophic status to be made, and any long-term water quality trends defined.

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Ontario

Ministry of the Environment

LOONCALL LAKE

Burleigh Twp., Peterborough County

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

elf-Help Programme" was initiated in 1971 in response to requests for water quality
s from concerned cottagers on many recreational lakes throughout the Province.
us experience indicated that the enrichment status of a lake can be estimated
vely easily by using Secchi disc readings and chlorophyll a concentrations (the
pigment in algae) to give an indication of water clarity and algal density re-
vely. (A more detailed explanation is provided in the publication on Eutrophication,
may be obtained from the address listed below). Volunteers are supplied with
ng kits, which includes a Secchi disc, a water sampler, bottles and instructions.
ipants are asked to take Secchi disc readings and collect water samples biweekly
the ice-free period of the year. The water samples are shipped to the nearest
ry of the Environment laboratory facilities where they are analyzed for chlorophyll
e true value of the programme is only realized if it is continued for a number of
in order to define longterm trends.

on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
ured lakes have been grouped into approximate ranges to indicate the status of
ment.

ecchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ed	0-3 m	high algal densities	4 ug/l or more
tely enriched	3-5 m	moderate algal densities	2-4 ug/l
ched	5 m or more	low algal densities	0-2 ug/l

l: Secchi disc (m) and chlorophyll a (ug/l) data collected from Looncall Lake

Stn.- West End		Stn.- East End
S.D.	Chloro. a	
4.5		5.0
4.5		6.0
3.7		5.5
4.2		5.5

lters used in chlorophyll a analysis caused a problem which resulted in some erroneous
ical data. The chlorophyll a data have been deleted from this year's report to avoid
resentation.

samples were collected on only three occasions in 1977, it is difficult to obtain even
onably accurate assessment of Looncall Lake's trophic status. Based on the available
the West End Station would be considered moderately enriched whereas the East End Station
be considered unenriched.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Looncall Lake from 1971 to 1977.

Year	Stn.- West End S.D.	Chloro. a	Stn.- East End S.D.
*1971	4.5	1.5	
1972			
1973			
*1974	3.4	1.6	
*1975	3.5	1.6	
*1976	3.2	3.9	
1977	4.2		5.5
"			

* main lake station

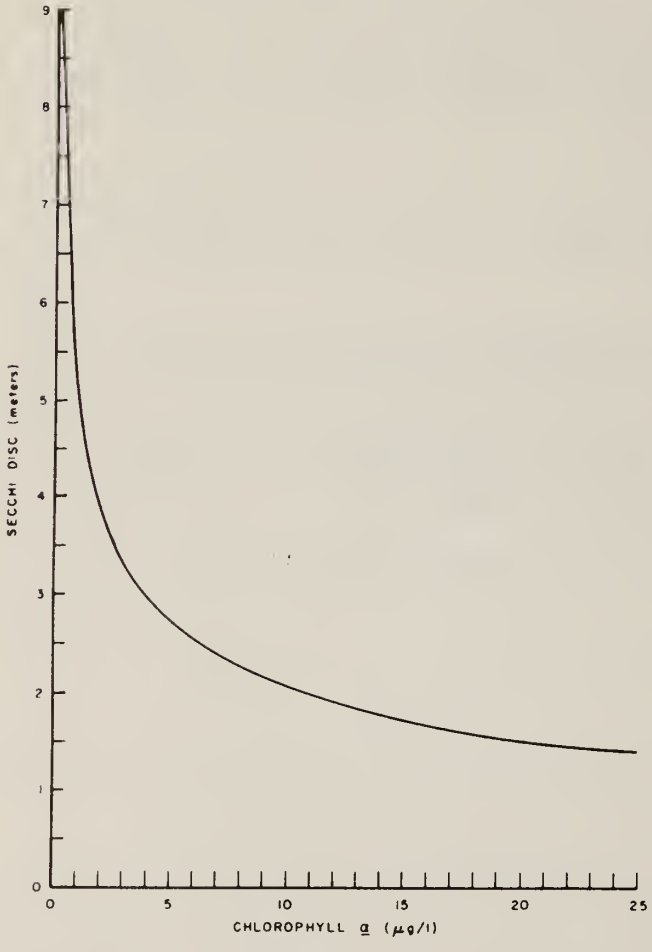

Figure 1: The relationship between Secchi disc and chlorophyll a for Looncall Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The variations in the yearly mean Secchi disc readings, outlined in Table 2, are primarily attributable to natural annual fluctuations. It is recommended that participation in this program be continued to ensure the relatively stable condition of Looncall Lake persists.

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MARY LAKE

Town of Huntsville, District
Municipality of Muskoka.

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

elf-Help Programme" was initiated in 1971 in response to requests for water quality
s from concerned cottagers on many recreational lakes throughout the Province.
us experience indicated that the enrichment status of a lake can be estimated
vely easily by using Secchi disc readings and chlorophyll a concentrations (the
pigment in algae) to give an indication of water clarity and algal density re-
vely. (A more detailed explanation is provided in the publication on Eutrophication,
may be obtained from the address listed below). Volunteers are supplied with
ng kits, which includes a Secchi disc, a water sampler, bottles and instructions.
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the ice-free period of the year. The water samples are shipped to the nearest
ry of the Environment laboratory facilities where they are analyzed for chlorophyll
e true value of the programme is only realized if it is continued for a number of
in order to define longterm trends.

on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
ured lakes have been grouped into approximate ranges to indicate the status of
ment.

ecchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ed	0-3 m	high algal densities	4 ug/l or more
tely enriched	3-5 m	moderate algal densities	2-4 ug/l
ched	5 m or more	low algal densities	0-2 ug/l

l: Secchi disc (m) and chlorophyll a (ug/l) data collected from Mary Lake

Stn. - Main

S.D.	Chloro. a
4.5	The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.
5.0	
4.0	
4.0	
4.5	The Secchi disc readings remained relatively constant during the sampling period, varying from 4.0 to 5.0 meters. Based on the seasonal mean for this parameter of 4.3 meters, Mary Lake would be considered moderately enriched, characterized by a moderate degree of water transparency.
4.0	
4.0	
4.3	

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Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Mary Lake from 1974 to 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973		
1974	4.5	1.7
1975	3.8	1.7
1976	4.1	2.3
1977	4.3	

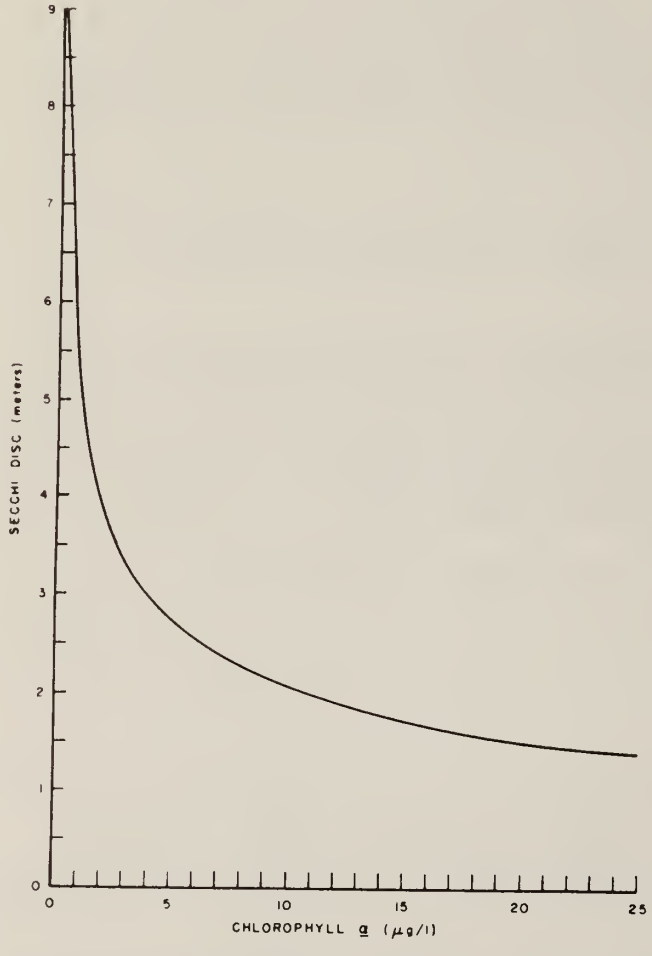

Figure 1: The relationship between Secchi disc and chlorophyll a for Mary Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Since commencement of this program in 1974, the mean yearly Secchi disc reading ha e: ited minimal variation, indicating a relatively stable lake condition. Continued participation in this program is recommended, to ensure this condition persists.

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Ontario

Ministry of the Environment

MEDORA LAKE

Twp. of Muskoka Lakes, District Municipality of Muskoka.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

elf-Help Programme" was initiated in 1971 in response to requests for water quality s from concerned cottagers on many recreational lakes throughout the Province. us experience indicated that the enrichment status of a lake can be estimated vely easily by using Secchi disc readings and chlorophyll a concentrations (the pigment in algae) to give an indication of water clarity and algal density re- vely. (A more detailed explanation is provided in the publication on Eutrophication, may be obtained from the address listed below). Volunteers are supplied with ng kits, which includes a Secchi disc, a water sampler, bottles and instructions. ipants are asked to take Secchi disc readings and collect water samples biweekly the ice-free period of the year. The water samples are shipped to the nearest ry of the Environment laboratory facilities where they are analyzed for chlorophyll e true value of the programme is only realized if it is continued for a number of in order to define longterm trends.

on experience, mean annual Secchi disc readings and chlorophyll a concentrations in ured lakes have been grouped into approximate ranges to indicate the status of ment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ed	0-3 m	high algal densities	4 ug/l or more
tely enriched	3-5 m	moderate algal densities	2-4 ug/l
ched	5 m or more	low algal densities	0-2 ug/l

l: Secchi disc (m) and chlorophyll a (ug/l) data collected from Medora Lake

Stn. - Main S.D.	Chloro. a
3.0	
4.5	
4.9	
4.2	
3.8	
4.1	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings varied from 3.0 to 4.9 meters during the sampling period, and no trend was apparent. Based on the season mean for this parameter of 4.1 meters, Medora Lake would be considered moderately enriched, characterized by a moderate degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug l) data collected from Medora Lake from 1974 to 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973		
1974	3.7	2.0
1975	4.1	9.0
1976	-	-
1977	4.1	

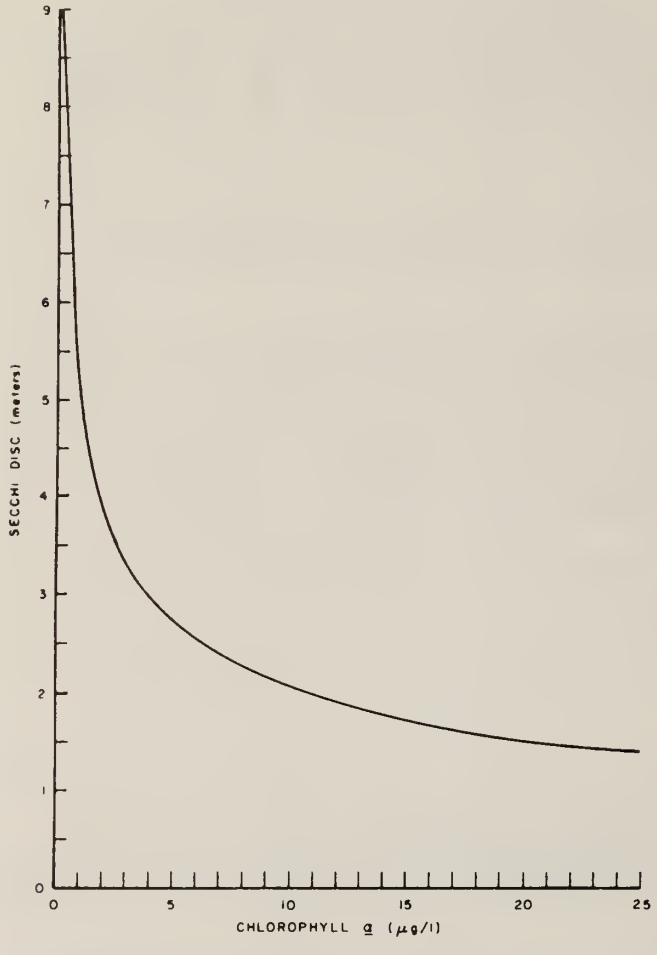

Figure 1: The relationship between Secchi disc and chlorophyll a for Medora Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

During the three years this program has been conducted on Medora Lake, the mean yea Secchi disc readings have remained relatively constant, indicating a stable lake condition.

Continued participation in this program is recommended, to ensure this condition pe

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Ministry of the Environment

MISKWABI LAKE

Dudley Twp., Provisional
County of Haliburton.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

elf-Help Programme" was initiated in 1971 in response to requests for water quality
s from concerned cottagers on many recreational lakes throughout the Province.
us experience indicated that the enrichment status of a lake can be estimated
vely easily by using Secchi disc readings and chlorophyll a concentrations (the
pigment in algae) to give an indication of water clarity and algal density re-
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may be obtained from the address listed below). Volunteers are supplied with
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the ice-free period of the year. The water samples are shipped to the nearest
ry of the Environment laboratory facilities where they are analyzed for chlorophyll
e true value of the programme is only realized if it is continued for a number of
in order to define longterm trends.

on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
ured lakes have been grouped into approximate ranges to indicate the status of
ment.

ecchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ed	0-3 m	high algal densities	4 ug/l or more
tely enriched	3-5 m	moderate algal densities	2-4 ug/l
ched	5 m or more	low algal densities	0-2 ug/l

l: Secchi disc (m) and chlorophyll a (ug/l) data collected from Miskwabi Lake

Stn. - 6 S.D.	Stn. - 6 Chloro. a	Stn. - 13 S.D.
8.3		4.5
-		8.5
8.0		-
-		5.5
7.8		6.0
7.8		4.5
-		5.5
7.0		5.5
-		5.5
8.0		6.0
-		5.5
8.0		6.5
-		6.0
8.3		6.8
7.9		5.9

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

There is no trend to the variations in the Secchi disc readings at either of the stations sampled. Based on the seasonal mean for this parameter, Miskwabi Lake would be considered unenriched, characterized by a very high degree of water transparency. Station 6 is less enriched that Station 13, as evidenced by its greater degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Miskwabi Lake from 1975 to 1977.

Year	Stn. - 6 S.D.	Stn. - 6 Chloro. a	Stn. - 13 S.D.	Stn. - 13 Chloro. a
1971				
1972				
1973				
1974				
*1975	7.7	1.6	7.0	1.6
1976	6.4	1.6	5.6	2.2
1977	7.9		5.9	

*MOE data

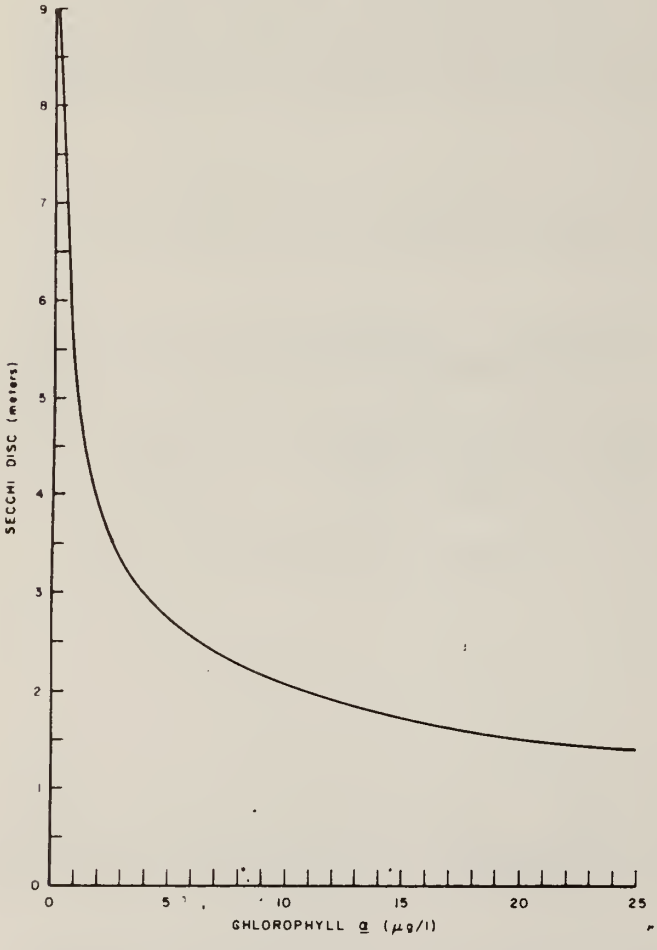

Figure 1: The relationship between Secchi disc and chlorophyll a for Miskwabi Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The variations in the yearly mean Secchi disc readings, outlined in Table 2, are primarily the result of natural yearly fluctuations. The existing data indicates that the condition of Miskwabi Lake is relatively stable, and it is recommended that participation in this program be contued to ensure this condition persists.

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Ministry of the Environment

MISSISSAUGA LAKE

Cavendish & Harvey Twp.,
Peterborough County

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

elf-Help Programme" was initiated in 1971 in response to requests for water quality
's from concerned cottagers on many recreational lakes throughout the Province.
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ry of the Environment laboratory facilities where they are analyzed for chlorophyll
e true value of the programme is only realized if it is continued for a number of
in order to define longterm trends.

on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
ured lakes have been grouped into approximate ranges to indicate the status of
ment.

ecchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ed	0-3 m	high algal densities	4 ug/l or more
tely enriched	3-5 m	moderate algal densities	2-4 ug/l
ched	5 m or more	low algal densities	0-2 ug/l

l: Secchi disc (m) and chlorophyll a (ug/l) data collected from Mississauga Lake

Stn. - Main S.D.	Chloro. a
6.8	
5.8	
5.5	
6.0	
6.0	
6.5	
6.1	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings exhibited minimal variation during the sampling period, ranging from 5.5 to 6.8 meters. Based on the seasonal mean for this parameter of 6.1 meters, Mississauga Lake would be considered unenriched, characterized by a high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Mississauga Lake in 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973		
1974		
1975		
1976		
1977	6.1	
"		

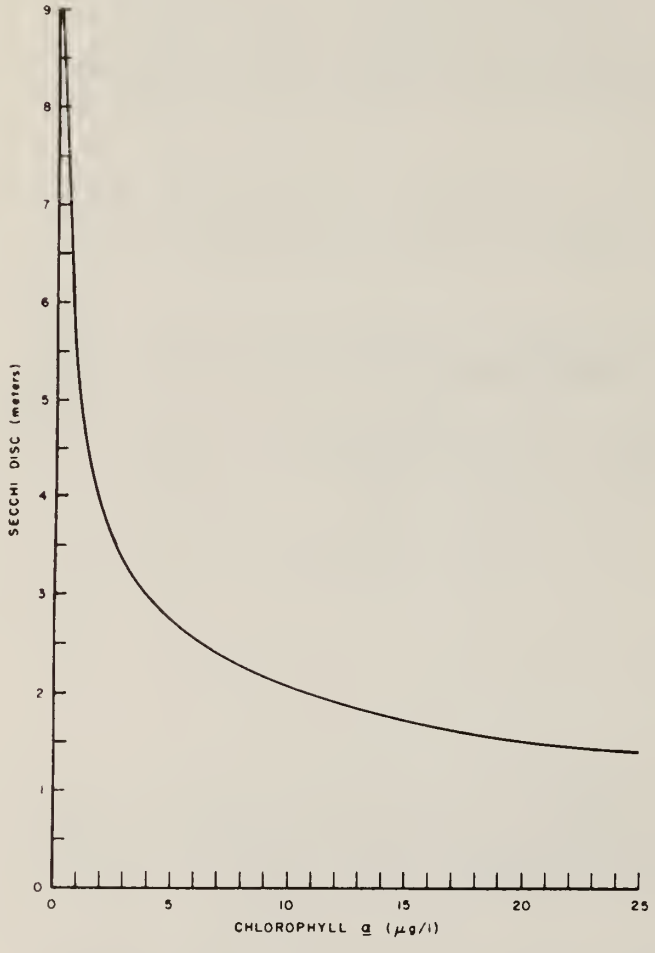

Figure 1: The relationship between Secchi disc and chlorophyll a for and a number of other well-known recreational lakes in the province. All data are seasonal means.

Due to the absence of chlorophyll a data, it is not possible to plot Mississauga Lake on the above curve, to determine its enrichment status relative to other Southern Ontario lakes. Continued participation in this program will enable an accurate assessment of the lake's trophic status to be made and long-term water quality treds defined.

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Ontario

Ministry of the Environment

MULDREW LAKE

Town of Gravenhurst, District Municipality of Muskoka.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

elf-Help Programme" was initiated in 1971 in response to requests for water quality s from concerned cottagers on many recreational lakes throughout the Province. us experience indicated that the enrichment status of a lake can be estimated vely easily by using Secchi disc readings and chlorophyll a concentrations (the pigment in algae) to give an indication of water clarity and algal density re- vely. (A more detailed explanation is provided in the publication on Eutrophication, may be obtained from the address listed below). Volunteers are supplied with ng kits, which includes a Secchi disc, a water sampler, bottles and instructions. ipants are asked to take Secchi disc readings and collect water samples biweekly the ice-free period of the year. The water samples are shipped to the nearest ry of the Environment laboratory facilities where they are analyzed for chlorophyll e true value of the programme is only realized if it is continued for a number of in order to define longterm trends.

on experience, mean annual Secchi disc readings and chlorophyll a concentrations in ured lakes have been grouped into approximate ranges to indicate the status of ment.

ecchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ied	0-3 m	high algal densities	4 ug/l or more
tely enriched	3-5 m	moderate algal densities	2-4 ug/l
ched	5 m or more	low algal densities	0-2 ug/l

l: Secchi disc (m) and chlorophyll a (ug/l) data collected from Muldrew Lake

Stn. - Good S.D.	Chloro. a
3.5	
3.5	
3.5	
3.5	
3.5	
4.5	
3.7	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings remained constant, with the exception of one date, during the period sampled. Based on the seasonal mean for this parameter of 3.7 meters, Muldrew Lake would be considered moderately enriched, characterized by a moderate degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Muldrew Lake in 1976.

Year	Stn. - Good S.D.	Chloro. a	Stn. - Thow S.D.	Chloro. a
1971				
1972				
1973				
1974				
1975				
1976	3.9	2.9	3.3	3.8
1977	3.7			

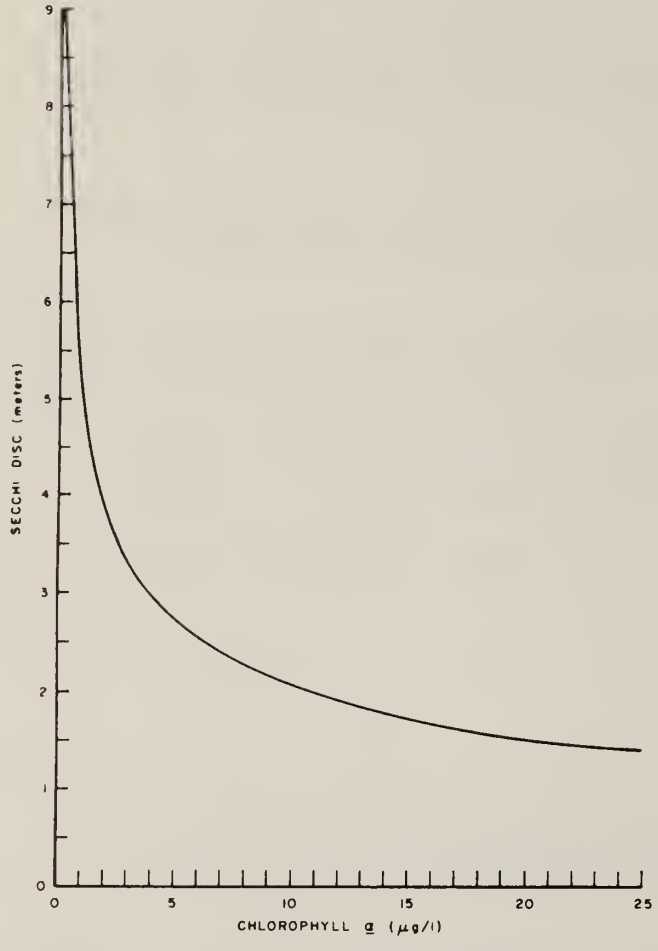

Figure 1: The relationship between Secchi disc and chlorophyll a for Muldrew Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The two year's of data from Muldrew Lake is insufficient to draw any definite conclus from regarding lake trends, although, the available data would indicate a stable lake condition. Continued participation in this program is recommended, if sufficient data is to be obtained to examine long-term trends in lake quality.

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Ontario

MUSKOKA BAY

Town of Gravenhurst
District Municipality of Muskoka

Ministry of the Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

elf-Help Programme" was initiated in 1971 in response to requests for water quality s from concerned cottagers on many recreational lakes throughout the Province. us experience indicated that the enrichment status of a lake can be estimated vely easily by using Secchi disc readings and chlorophyll a concentrations (the pigment in algae) to give an indication of water clarity and algal density re- vely. (A more detailed explanation is provided in the publication on Eutrophication, may be obtained from the address listed below). Volunteers are supplied with ng kits, which includes a Secchi disc, a water sampler, bottles and instructions. ipants are asked to take Secchi disc readings and collect water samples biweekly the ice-free period of the year. The water samples are shipped to the nearest ry of the Environment laboratory facilities where they are analyzed for chlorophyll e true value of the programme is only realized if it is continued for a number of in order to define longterm trends.

on experience, mean annual Secchi disc readings and chlorophyll a concentrations in ured lakes have been grouped into approximate ranges to indicate the status of ment.

ecchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ed	0-3 m	high algal densities	4 ug/l or more
tely enriched	3-5 m	moderate algal densities	2-4 ug/l
ched	5 m or more	low algal densities	0-2 ug/l

l: Secchi disc (m) and chlorophyll a (ug/l) data collected from Muskoka Bay

Stn. - 1 S.D.	Chloro. a	Stn. - 2 S.D.
4.0		-
4.0		4.5
5.0		4.5
4.5		4.5
4.0		3.0
4.3		4.1

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

Variations occurred in the Secchi disc readings at both stations, however no trend is apparent. Based on the seasonal mean for this parameter, the difference in lake quality between the two stations is minimal. Muskoka Bay would be considered moderately enriched, characterized by a moderate degree of water trans- parency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Muskoka Bay

Year	Stn. -1 S.D.	Chloro. a	Stn. - 2 S.D.
*1971	1.9	13.8	
* 1972	3.1	8.1	
* 1973	3.2	6.9	
* 1974	2.7	5.0	
* 1975	3.9	5.0	
* 1976	3.7	10.6	
1977	4.3		4.1
"			

* MOE data

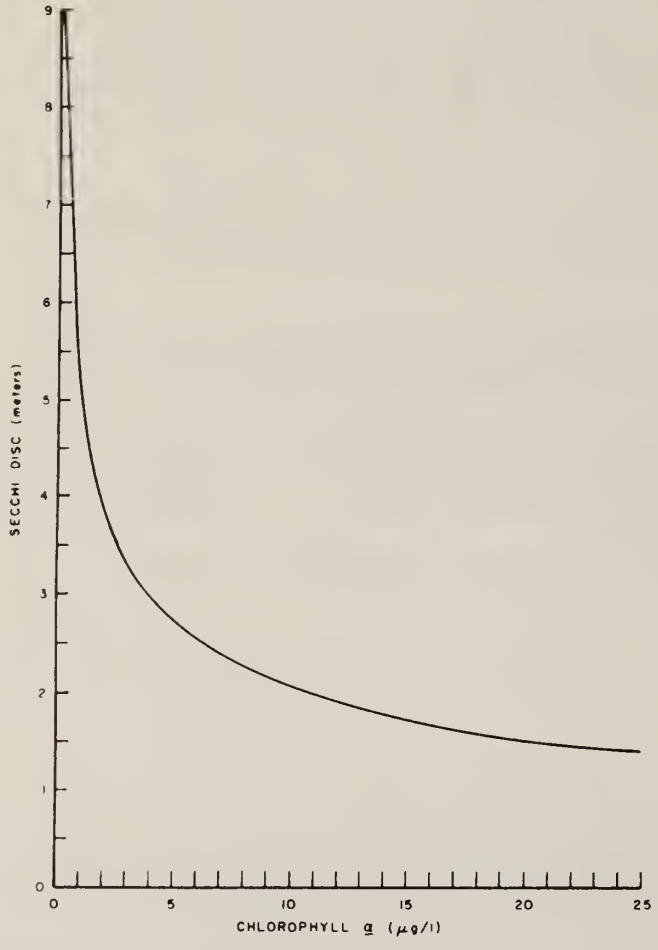

Figure 1: The relationship between Secchi disc and chlorophyll a for and a number of other well-known recreational lakes in the province. All data are seasonal means.

Since the initiation of phosphorus removal at the Gravenhurst Sewage Treatment Plat, there has been a marked improvement in the quality of Muskoka Bay, in terms of bot increased transparency, and reduced algal growth. Continuation of this program wil enable future trends in the water quality of the Bay to be monitored.

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Ministry of the Environment

PAUDASH LAKE

Cardiff Twp., Provisional County of Haliburton

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

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ured lakes have been grouped into approximate ranges to indicate the status of
ment.

ecchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ed	0-3 m	high algal densities	4 ug/l or more
tely enriched	3-5 m	moderate algal densities	2-4 ug/l
ched	5 m or more	low algal densities	0-2 ug/l

l: Secchi disc (m) and chlorophyll a (ug/l) data collected from Paudash Lake

Stn. - North Bay S.D.	Chloro. a	Stn. - Outle Bay S.D.	Stn. - Joe Bay S.D.	Stn. - Inlet Bay S.D.
4.8		5.0	3.5	4.1
5.5		5.5	3.8	4.4
5.4		5.2	3.8	3.7
-		6.0	-	-
4.0		5.0	5.0	-
3.7		5.5	3.8	5.2
-		4.5	4.4	5.3
4.7		5.2	4.0	4.5

lters ued in chlorophyll a analysis caused a problem which resulted in some erroneous
ical data. The chlorophyll a data have been deleted from this year's report to avoid
resentation.

on the mean seasonal Secchi disc reading, Outlet Bay would be considered unenriched,
terized by a high degree of water transparency. The remaining three bays would be
ered moderately enriched, with the North Bay being least enriched of the three followed
et Bay and then Joe Bay.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Paudash Lake in 1976 and 1977.

Year	Stn. - North Bay S.D.	Chloro. a	Stn. - Outlet Bay S.D.	Chloro. a	Stn. - Joe Bay S.D.	Chloro. a	Stn. - Inle S.D.	Chlo.
1971								
1972								
1973								
1974								
1975								
1976	3.8	1.9	4.7	2.7	2.9	2.6	3.4	4.1
1977	4.7		5.2		4.0		4.5	
"								

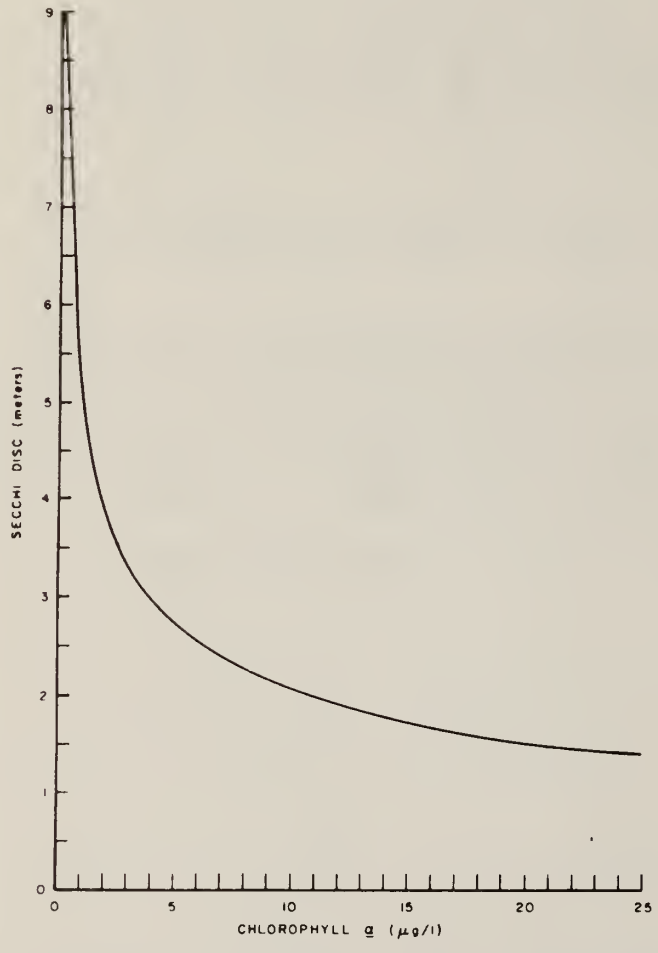

Figure 1: The relationship between Secchi disc and chlorophyll a for and a number of other well-known recreational lakes in the province. All data are seasonal means.

Whether the increased water transparency measured at all four stations is due to a alteration of lake quality or natural fluctuation can not be determined from the available data. Continued participation in this program is recommended, in order that sufficient data may be obtained to define long-term lake trends.

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Ontario

PENINSULA LAKE

Twp. of Lake of Bays, District
Municipality of Muskoka.

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

Self-Help Programme" was initiated in 1971 in response to requests for water quality
rs from concerned cottagers on many recreational lakes throughout the Province.
ous experience indicated that the enrichment status of a lake can be estimated
ively easily by using Secchi disc readings and chlorophyll a concentrations (the
pigment in algae) to give an indication of water clarity and algal density re-
ively. (A more detailed explanation is provided in the publication on Eutrophication,
may be obtained from the address listed below). Volunteers are supplied with
ing kits, which includes a Secchi disc, a water sampler, bottles and instructions.
cipants are asked to take Secchi disc readings and collect water samples biweekly
the ice-free period of the year. The water samples are shipped to the nearest
ry of the Environment laboratory facilities where they are analyzed for chlorophyll
e true value of the programme is only realized if it is continued for a number of
in order to define longterm trends.

on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
oured lakes have been grouped into approximate ranges to indicate the status of
ment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ed	0-3 m	high algal densities	4 ug/l or more
tely enriched	3-5 m	moderate algal densities	2-4 ug/l
ched	5 m or more	low algal densities	0-2 ug/l

l: Secchi disc (m) and chlorophyll a (ug/l) data collected from Peninsula Lake

	(Wolf B.) Stn. - 1 S.D.	(Deerhurst B.) Stn. - 2 S.D.
25	4.5	4.5
0	5.0	5.0
24	5.0	5.5
7	5.0	5.0
20	4.5	5.0
4	5.5	6.0
	4.9	5.2

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

No trend is apparent in the variations experienced by the Secchi disc readings at either station. Based on the seasonal mean for this parameter, there is minimal variation in water quality between the two stations sampled. The available data would indicate that Peninsula Lake is a borderline unenriched lake, characterized by a high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Peninsula Lake form 1973 to 1977.

Year	Stn. - Lake Average S.D.	Chloro. a
1971		
1972		
*1973	4.5	1.9
1974	-	-
**1975	4.0	1.1
1976	4.3	2.8
1977	5.1	
"		

* MOE data
** based on 1 sampling

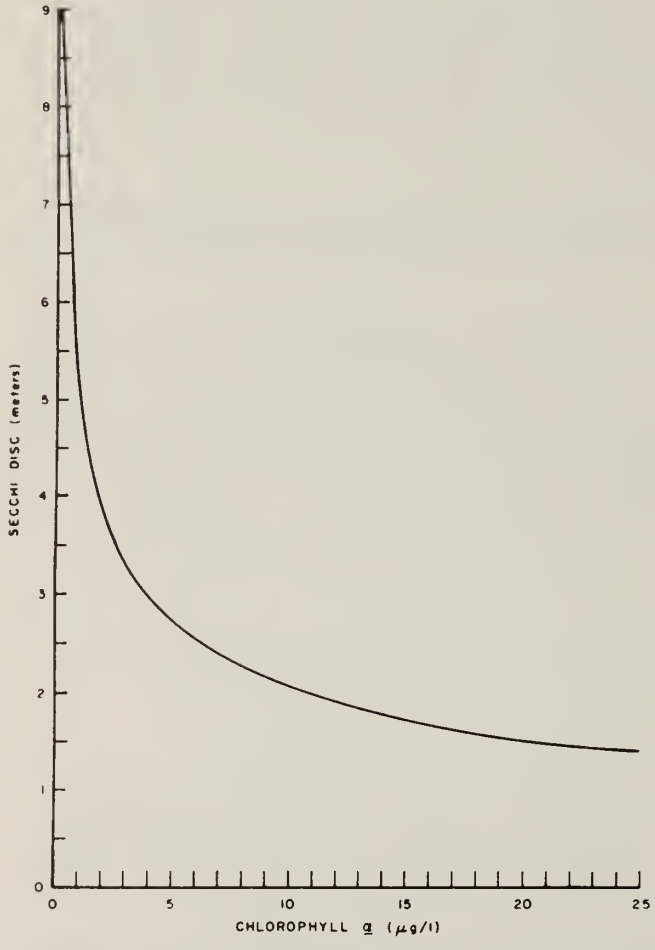

Figure 1: The relationship between Secchi disc and chlorophyll a for Peninsula Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The available data base is insufficient to determine whether the increased transpaer measured in 1977 is the result of an alteration in lake quality, or if it is due t natural fluctuation. Continued participation in this program is strongly recommenec to determine what long-term water quality trend will emerge.

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Ontario

Ministry of the Environment

PINE LAKE

Town of Bracebridge, District
Municipality of Muskoka.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

elf-Help Programme" was initiated in 1971 in response to requests for water quality
s from concerned cottagers on many recreational lakes throughout the Province.
us experience indicated that the enrichment status of a lake can be estimated
vely easily by using Secchi disc readings and chlorophyll a concentrations (the
pigment in algae) to give an indication of water clarity and algal density re-
vely. (A more detailed explanation is provided in the publication on Eutrophication,
may be obtained from the address listed below). Volunteers are supplied with
ng kits, which includes a Secchi disc, a water sampler, bottles and instructions.
ipants are asked to take Secchi disc readings and collect water samples biweekly
the ice-free period of the year. The water samples are shipped to the nearest
ry of the Environment laboratory facilities where they are analyzed for chlorophyll
e true value of the programme is only realized if it is continued for a number of
in order to define longterm trends.

on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
ured lakes have been grouped into approximate ranges to indicate the status of
ment.

ecchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ied	0-3 m	high algal densities	4 ug/l or more
tely enriched	3-5 m	moderate algal densities	2-4 ug/l
ched	5 m or more	low algal densities	0-2 ug/l

l: Secchi disc (m) and chlorophyll a (ug/l) data collected from Pine Lake

	Stn. - Main
	S.D.
5	4.5
3	4.8
	4.4
3	5.4
	4.8
	4.5
	6.4
	5.0

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings varied from 4.4 to 6.4 meters during the sampling period, and no trend was apparent. Based on the seasonal mean for this parameter, Pine Lake would be considered unenriched, characterized by a high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Pine Lake from 1974 to 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973		
1974	5.0	1.5
1975	5.7	1.8
1976	-	-
1977	5.0	

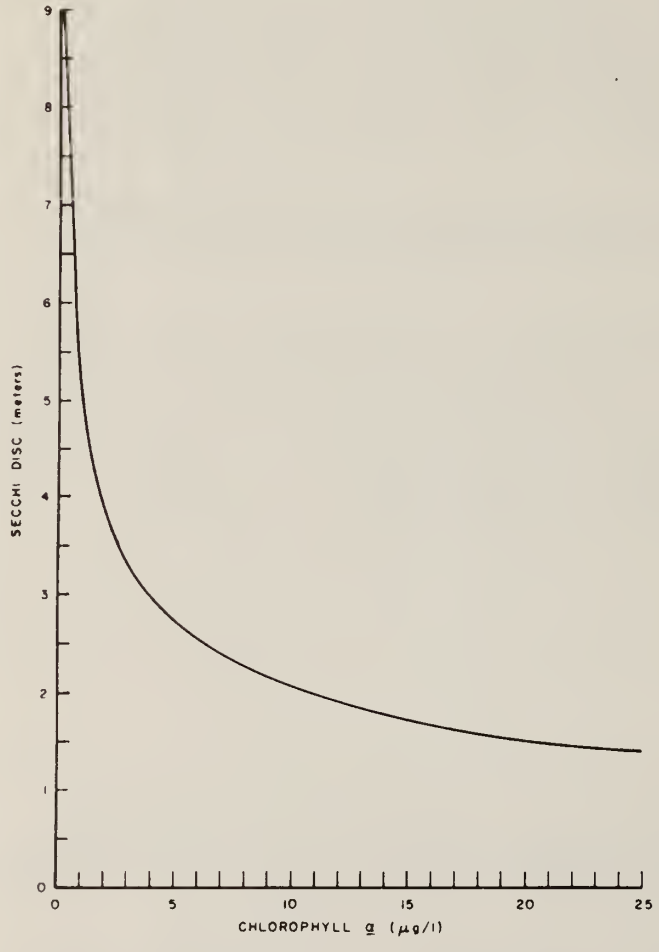

Figure 1: The relationship between Secchi disc and chlorophyll a for Pine Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The variations in the yearly mean Secchi disc reading, outlined in Table 2 are prim
the result of natural annual fluctuation, and do not indicate a change in lake quali
Continued participation in this program is recommended, to ensure the relative stab
condition of Pine Lake persists.

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Ministry of the Environment

RIL LAKE

Twp. of Lake of Bays, District Municipality of Muskoka.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

elf-Help Programme" was initiated in 1971 in response to requests for water quality
/s from concerned cottagers on many recreational lakes throughout the Province.
ous experience indicated that the enrichment status of a lake can be estimated
ively easily by using Secchi disc readings and chlorophyll a concentrations (the
pigment in algae) to give an indication of water clarity and algal density re-
vely. (A more detailed explanation is provided in the publication on Eutrophication,
may be obtained from the address listed below). Volunteers are supplied with
ng kits, which includes a Secchi disc, a water sampler, bottles and instructions.
ipants are asked to take Secchi disc readings and collect water samples biweekly
the ice-free period of the year. The water samples are shipped to the nearest
ry of the Environment laboratory facilities where they are analyzed for chlorophyll
e true value of the programme is only realized if it is continued for a number of
in order to define longterm trends.

on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
ured lakes have been grouped into approximate ranges to indicate the status of
ment.

ecchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ed	0-3 m	high algal densities	4 ug/l or more
tely enriched	3-5 m	moderate algal densities	2-4 ug/l
ched	5 m or more	low algal densities	0-2 ug/l

l: Secchi disc (m) and chlorophyll a (ug/l) data collected from Ril Lake

Stn.- Main S.D.	Chloro. a
3.0	
2.5	
2.8	
2.8	
2.8	
3.2	
3.1	
2.8	
4.0	
2.5	
3.0	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings varied from 2.5 to 4.0 meters during the sampling period, and no trend was evident. Based on the seasonal mean for this parameter of 3.0 meters, Ril Lake would be considered moderately enriched, characterized by a moderate degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Rill Lake in 1972, 1976 and 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
* 1972	2.5	4.3
1973		
1974		
1975		
1976	3.3	3.9
1977	3.0	

* MOE data

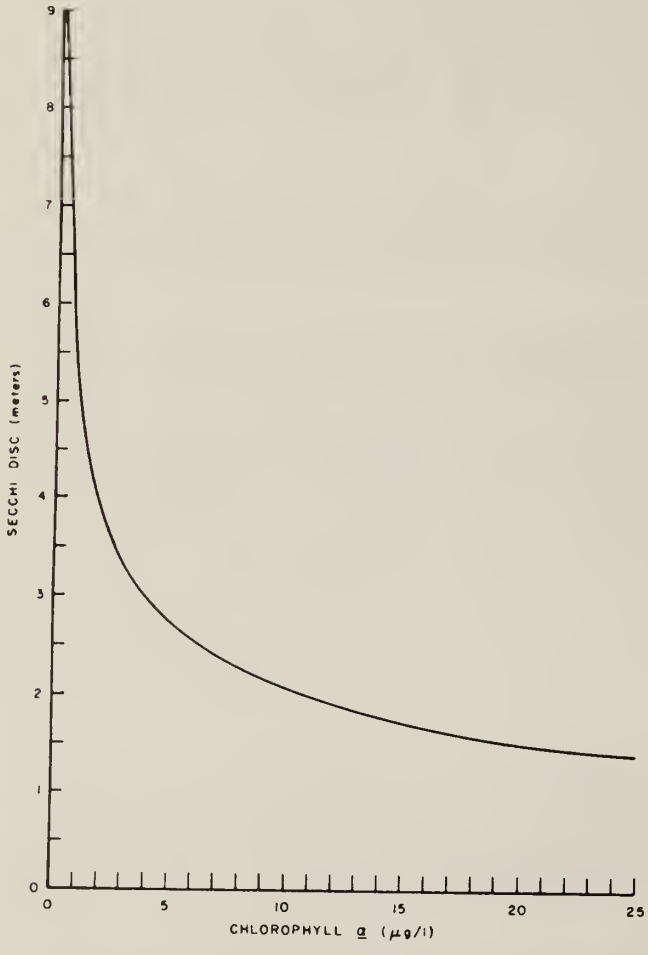

Figure 1: The relationship between Secchi disc and chlorophyll a for Ril Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The available data would indicate that the variations in the yearly mean Secchi dis readings outlined in Table 2, are the result of natural annual fluctuations, not a change in lake quality. Continued participation in this program is recommended, inor that long-term water quality trends may be defined.

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Ontario

Ministry of the
Environment

ROUND LAKE

Belmont Twp., Peterborough County

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

Self-Help Programme" was initiated in 1971 in response to requests for water quality
ys from concerned cottagers on many recreational lakes throughout the Province.
ous experience indicated that the enrichment status of a lake can be estimated
ively easily by using Secchi disc readings and chlorophyll a concentrations (the
pigment in algae) to give an indication of water clarity and algal density re-
ively. (A more detailed explanation is provided in the publication on Eutrophication,
may be obtained from the address listed below). Volunteers are supplied with
ing kits, which includes a Secchi disc, a water sampler, bottles and instructions.
cipants are asked to take Secchi disc readings and collect water samples biweekly
the ice-free period of the year. The water samples are shipped to the nearest
ry of the Environment laboratory facilities where they are analyzed for chlorophyll
e true value of the programme is only realized if it is continued for a number of
in order to define longterm trends.

on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
oured lakes have been grouped into approximate ranges to indicate the status of
ment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ed	0-3 m	high algal densities	4 ug/l or more
tely enriched	3-5 m	moderate algal densities	2-4 ug/l
ched	5 m or more	low algal densities	0-2 ug/l

1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Round Lake

	Stn. - Main
	S.D.
3	2.8
0	3.5
7	4.0
4	3.0
1	2.8
7	3.0
4	2.8
1	2.5
3	2.5
5	2.3
	2.9

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings varied from 2.3 to 4.0 meters during the sampling period, and no trend was apparent. Based on the seasonal mean for this parameter, Round Lake would be considered moderately enriched, characterized by a moderate degree of water transparency.

E0976 12/77

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Round Lake.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973		
1974		
1975		
1976		
1977	2.9	
"		

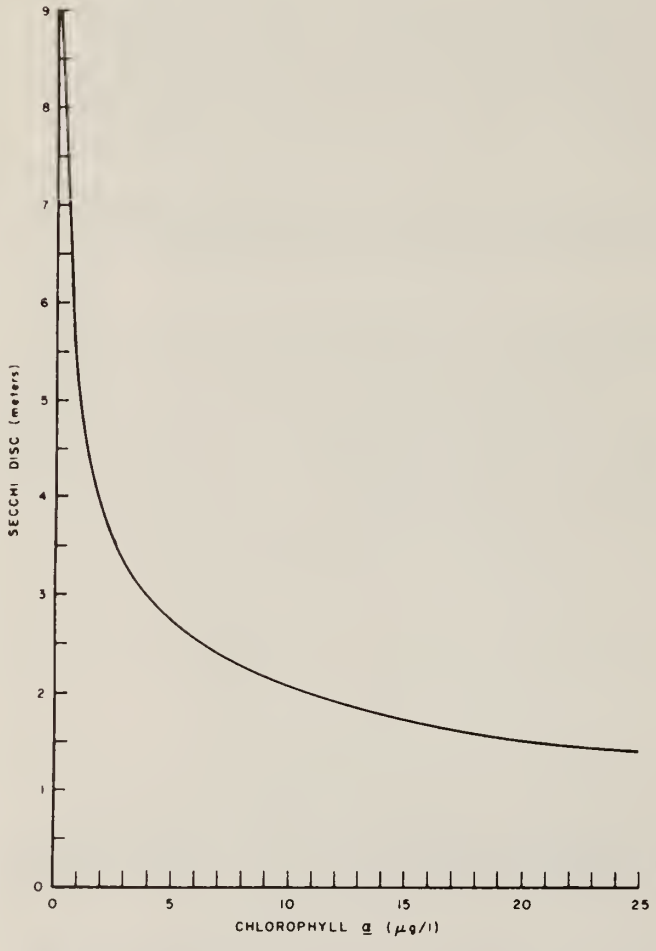

Figure 1: The relationship between Secchi disc and chlorophyll a for Round Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Due to the absence of chlorophyll a data, it is not possible to plot Round Lake on the above curve, to determine its enrichment status relative to other Southern Ontario lakes. Continued participation in this program will enable a more accurate assessment of the lake's trophic status to be made, and long-term lake trends monitored.

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Ontario

Ministry of the Environment

SALERNO LAKE

Snowdon and Glamorgan Twp.,
Provisional County of Haliburton

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

elf-Help Programme" was initiated in 1971 in response to requests for water quality
s from concerned cottagers on many recreational lakes throughout the Province.
is experience indicated that the enrichment status of a lake can be estimated
ely easily by using Secchi disc readings and chlorophyll a concentrations (the
igment in algae) to give an indication of water clarity and algal density re-
ely. (A more detailed explanation is provided in the publication on Eutrophication,
ay be obtained from the address listed below). Volunteers are supplied with
g kits, which includes a Secchi disc, a water sampler, bottles and instructions.
pants are asked to take Secchi disc readings and collect water samples biweekly
the ice-free period of the year. The water samples are shipped to the nearest
y of the Environment laboratory facilities where they are analyzed for chlorophyll
true value of the programme is only realized if it is continued for a number of
n order to define longterm trends.

n experience, mean annual Secchi disc readings and chlorophyll a concentrations in
red lakes have been grouped into approximate ranges to indicate the status of
ent.

cchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
d	0-3 m	high algal densities	4 ug/l or more
ely enriched	3-5 m	moderate algal densities	2-4 ug/l
hed	5 m or more	low algal densities	0-2 ug/l

: Secchi disc (m) and chlorophyll a (ug/l) data collected from Salerno Lake

Stn. - 1 S.D.	Stn. - 1 Chloro. a	Stn. - 2 S.D.
2.9		3.1
2.4		4.3
4.5		5.0
4.0		5.2
3.5		4.0
3.7		2.7
5.6		5.4
5.8		5.5
4.1		4.4

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings at both stations exhibited considerable variation during the sampling period, but no trends are apparent. Based on the seasonal mean for this parameter, only a minimal difference in lake quality exists between the two stations. Salerno Lake is a moderately enriched lake, characterized by a moderately high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Salerno Lake from 1973 to 1977.

Year	Stn. - 1 S.D.	Stn. - 1 Chloro. a	Stn. - 2 S.D.	Stn. - 2 Chloro. a
1971				
1972				
*1973	6.0	1.9		
1974	-	-		
1975	3.6	4.0	4.5	2.2
1976	3.6	3.0	3.9	2.6
1977	4.1		4.4	

* mean of 3 stations

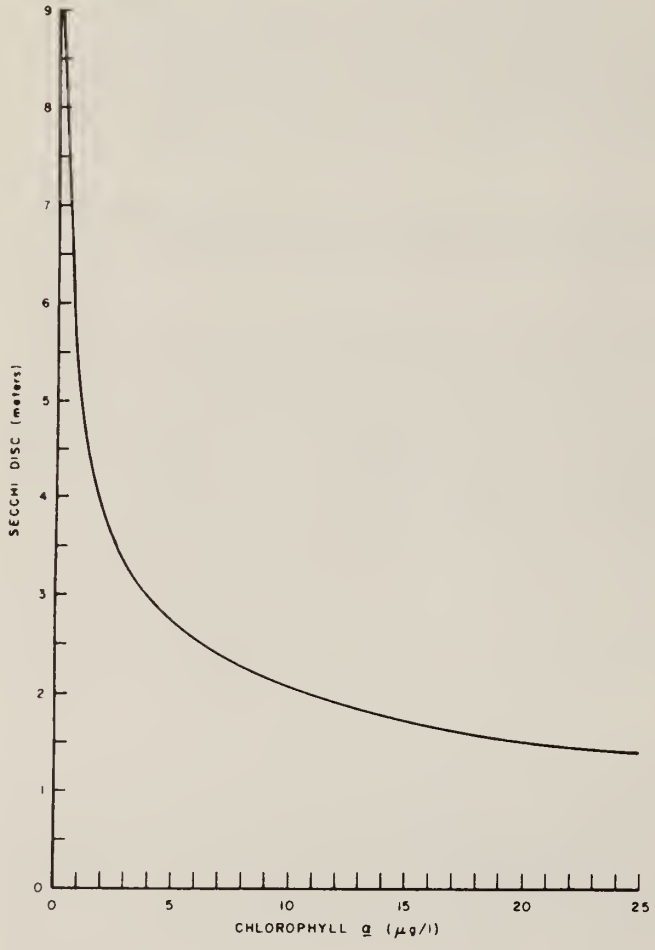

Figure 1: The relationship between Secchi disc and chlorophyll a for Salerno Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The variations in the mean seasonal Secchi disc readings during the last three yeas have followed no apparent trend, and are probably due to natural annual fluctuatios. The status of Salerno Lake appears stable, and it is recommended that this program be continued to ensure this condition persists.

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Ontario

Ministry of the Environment

SALMON LAKE

Cavendish Twp., Peterborough County

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

Self-Help Programme" was initiated in 1971 in response to requests for water quality
ys from concerned cottagers on many recreational lakes throughout the Province.
ous experience indicated that the enrichment status of a lake can be estimated
ively easily by using Secchi disc readings and chlorophyll a concentrations (the
pigment in algae) to give an indication of water clarity and algal density re-
ively. (A more detailed explanation is provided in the publication on Eutrophication,
may be obtained from the address listed below). Volunteers are supplied with
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cipants are asked to take Secchi disc readings and collect water samples biweekly
g the ice-free period of the year. The water samples are shipped to the nearest
try of the Environment laboratory facilities where they are analyzed for chlorophyll
he true value of the programme is only realized if it is continued for a number of
in order to define longterm trends.

on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
oured lakes have been grouped into approximate ranges to indicate the status of
ment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ned	0-3 m	high algal densities	4 ug/l or more
ately enriched	3-5 m	moderate algal densities	2-4 ug/l
iched	5 m or more	low algal densities	0-2 ug/l

l: Secchi disc (m) and chlorophyll a (ug/l) data collected from Salmon Lake

	Stn. - Main S.D.	Chloro. a
3	9.5	
6	7.0	
2	6.5	
9	7.0	
5	9.0	
4	6.0	
7	7.5	
7	4.5	
1	9.0	
	7.3	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings ranged from 4.5 to 9.0 meters during the sampling period and no trend was apparent. Based on the seasonal mean for this parameter, Salmon Lake would be considered unenriched, characterized by a very high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Salmon Lake in 1977.

Year	Stn.	S.D.	Chloro. a
1971			
1972			
1973			
1974			
1975			
1976			
1977		7.3	
"			

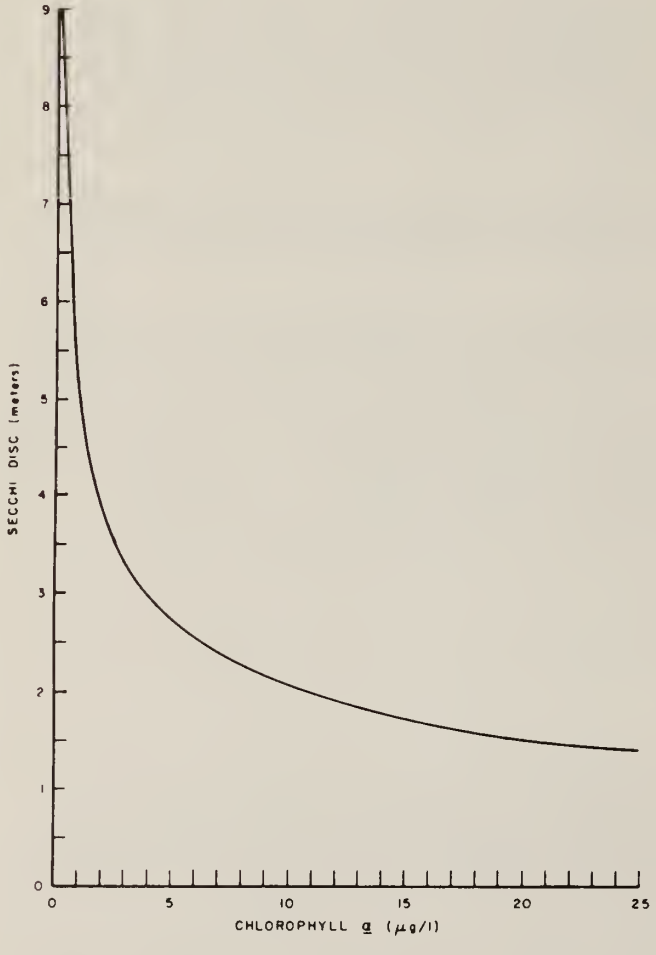

Figure 1: The relationship between Secchi disc and chlorophyll a for Salmon Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Due to the absence of chlorophyll a data, it is not possible to plot Salmon Lake on the above curve, to determine its enrichment status relative to other Southern Ontario lakes. Continued participation in this program will enable a more accurat assessment of the lake's trophic status to be made, and long-term lake trends monitored.

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Ontario

SHADOW LAKE

Laxton & Somerville Twp.,
Victoria County

Ministry of the
Environment

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

Self-Help Programme" was initiated in 1971 in response to requests for water quality
ys from concerned cottagers on many recreational lakes throughout the Province.
ous experience indicated that the enrichment status of a lake can be estimated
ively easily by using Secchi disc readings and chlorophyll a concentrations (the
pigment in algae) to give an indication of water clarity and algal density re-
ively. (A more detailed explanation is provided in the publication on Eutrophication,
may be obtained from the address listed below). Volunteers are supplied with
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try of the Environment laboratory facilities where they are analyzed for chlorophyll
e true value of the programme is only realized if it is continued for a number of
in order to define longterm trends.

on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
oured lakes have been grouped into approximate ranges to indicate the status of
ment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ned	0-3 m	high algal densities	4 ug/l or more
ately enriched	3-5 m	moderate algal densities	2-4 ug/l
iched	5 m or more	low algal densities	0-2 ug/l

l: Secchi disc (m) and chlorophyll a (ug/l) data collected from Shadow Lake

Stn. - Main

S.D.	Chloro. a
3.8	
4.2	
3.8	
5.0	
4.0	
4.0	
4.3	
5.5	
4.3	
4.3	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc reading varied from 3.8 to 5.5 meters during the sampling period, and no trend is apparent. Based on the seasonal mean for this parameter of 4.3 meters, Shadow Lake would be considered moderately enriched, characterized by a moderately high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Shadow Lake from 1972 to 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972	6.0	1.0
1973	5.0	0.7
1974	5.0	1.0
1975	-	-
1976	-	-
1977	4.3	

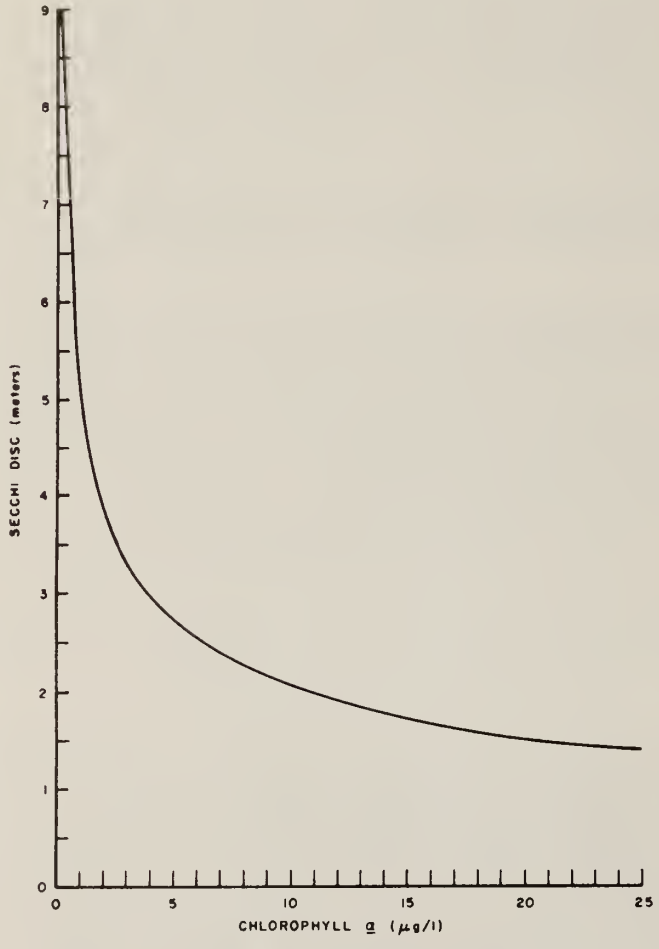

Figure 1: The relationship between Secchi disc and chlorophyll a for Shadow Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The available data is insufficient to conclude whether the decreased water transpa this year is due to a change in lake quality, or whether it is the result of natur fluctuation. Continued participation in this program is strongly recommended, in that trends in the lake quality may be monitored.

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Ontario

Ministry of the
Environment

SIX MILE LAKE

Twp. of Georgian Bay,
District Municipality of Muskoka

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

Self-Help Programme" was initiated in 1971 in response to requests for water quality
ys from concerned cottagers on many recreational lakes throughout the Province.
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in order to define longterm trends.

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ured lakes have been grouped into approximate ranges to indicate the status of
ment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ied	0-3 m	high algal densities	4 ug/l or more
tely enriched	3-5 m	moderate algal densities	2-4 ug/l
ched	5 m or more	low algal densities	0-2 ug/l

l: Secchi disc (m) and chlorophyll a (ug/l) data collected from Six Mile Lake

South Crooked Bay Stn. - 1		Lost Channel Stn. - 2
S.D.	Chloro. a	
3.3		3.7
2.8		2.8
3.0		2.5
3.8		3.8
4.0		4.5
4.3		4.7
4.5		3.5
4.3		4.3
4.5		5.0
4.3		4.8
5.8		5.8
4.1		4.1

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

Variations occurred in the Secchi disc readings at both stations, during the sampling period, but no trends were apparent. Based on the seasonal mean for this parameter, Six Mile Lake would be considered moderately enriched, characterized by a moderate degree of water transparency. There is no difference in lake quality between the two locations sampled.

DE0976 12/77

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Six Mile Lake

Year	Stn. - 1 (S. Crooked Bay) S.D.	Chloro. a	Stn. - 2 (Lost Channel S.D.
1971			
1972			
1973			
1974			
1975			
1976			
1977	4.1		4.1
"			

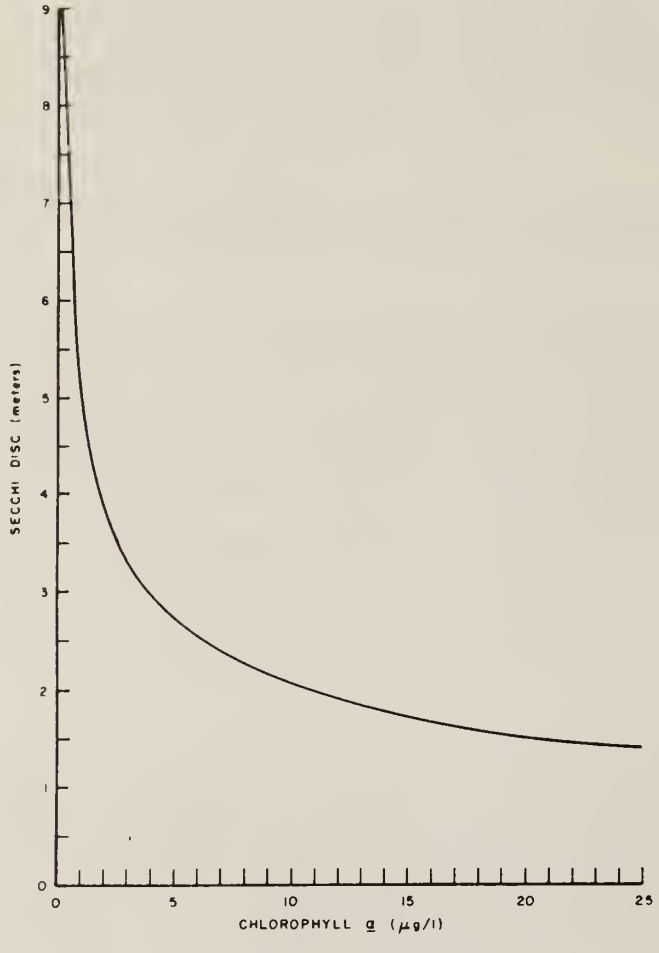

Figure 1: The relationship between Secchi disc and chlorophyll a for Six Mile Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Due to the absence of chlorophyll a data it is not possible to plot Six Mile Lake on the above curve to determine its enrichment status relative to other Southern Ontario lakes. Continued participation in this program will enable a more accurate assessment of the lake's trophic status to be made, and long-term lake trends monitored.

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Ontario

Ministry of the Environment

SOYERS LAKE

Minden Twp., Provisional
County of Haliburton.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

e "Self-Help Programme" was initiated in 1971 in response to requests for water quality
veys from concerned cottagers on many recreational lakes throughout the Province.
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istry of the Environment laboratory facilities where they are analyzed for chlorophyll
The true value of the programme is only realized if it is continued for a number of
rs in order to define longterm trends.

ed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in
oloured lakes have been grouped into approximate ranges to indicate the status of
ichment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
iched	0-3 m	high algal densities	4 ug/l or more
erately enriched	3-5 m	moderate algal densities	2-4 ug/l
nriched	5 m or more	low algal densities	0-2 ug/l

le 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Soyers Lake

e	Stn. - Main S.D.	Chloro. a
23	4.6	
12	4.8	
26	5.5	
17	4.8	
1	5.0	
7	5.0	
14	5.4	
21	5.0	
28	4.6	
5	4.9	
10	5.0	
	5.0	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings exhibuted only minor variation during the sampling period,ranging from 4.6 to 5.5 meters. Based on the seasonal mean for this parameter of 5.0 meters, Soyers Lake would be considered unenriched, characterized by a high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Soyers Lake from 1973 to 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973	3.8	1.7
1974	4.4	0.9
1975	3.5	2.1
1976	4.3	1.7
1977	5.0	

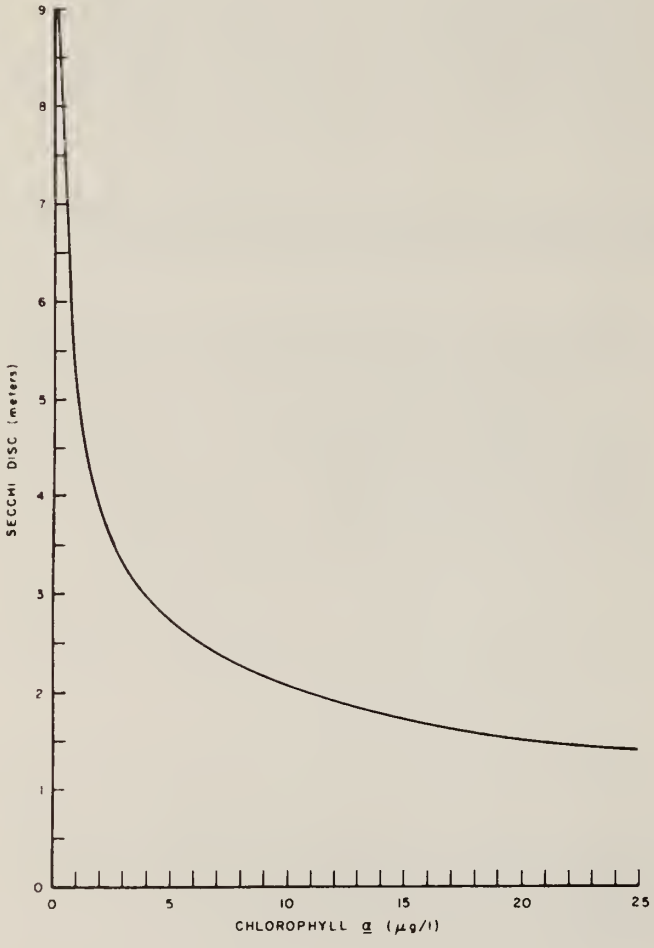

Figure 1: The relationship between Secchi disc and chlorophyll a for Soyers Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The existing data is insufficient to conclude whether the improvement in the water transparency of Soyers Lake since 1973 is due to a change in lake quality, or if it is the result of natural annual fluctuations. It is recommended that this program be continued, in order to define long-term lake quality trends.

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Ministry of the Environment

STORMY LAKE

Glamorgan Twp., Provisional
County of Haliburton

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

"Self-Help Programme" was initiated in 1971 in response to requests for water quality veys from concerned cottagers on many recreational lakes throughout the Province. vious experience indicated that the enrichment status of a lake can be estimated atively easily by using Secchi disc readings and chlorophyll a concentrations (the en pigment in algae) to give an indication of water clarity and algal density re- ctively. (A more detailed explanation is provided in the publication on Eutrophication, ch may be obtained from the address listed below). Volunteers are supplied with pling kits, which includes a Secchi disc, a water sampler, bottles and instructions. icipants are asked to take Secchi disc readings and collect water samples biweekly ng the ice-free period of the year. The water samples are shipped to the nearest istry of the Environment laboratory facilities where they are analyzed for chlorophyll The true value of the programme is only realized if it is continued for a number of s in order to define longterm trends.

d on experience, mean annual Secchi disc readings and chlorophyll a concentrations in loured lakes have been grouped into approximate ranges to indicate the status of chment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ched	0-3 m	high algal densities	4 ug/l or more
rately enriched	3-5 m	moderate algal densities	2-4 ug/l
riched	5 m or more	low algal densities	0-2 ug/l

e 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Stormy Lake

	Stn. - Main	
	S.D.	Chloro. a
27	4.0	
3	3.8	
17	3.8	
14	4.0	
	3.9	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

Since Stormy Lake was sampled on only four occasions in 1977, it is extremely difficult to obtain a reasonable estimate of the lake's tropic status. Based on the mean of the available data, Stormy Lake would be considered moderately enriched, characterized by a moderate degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Stormy Lake from 1972 to 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972	2.8	1.9
1973	3.7	1.6
1974	2.4	1.4
1975	3.8	2.2
1976	3.7	1.5
1977	3.9	
"		

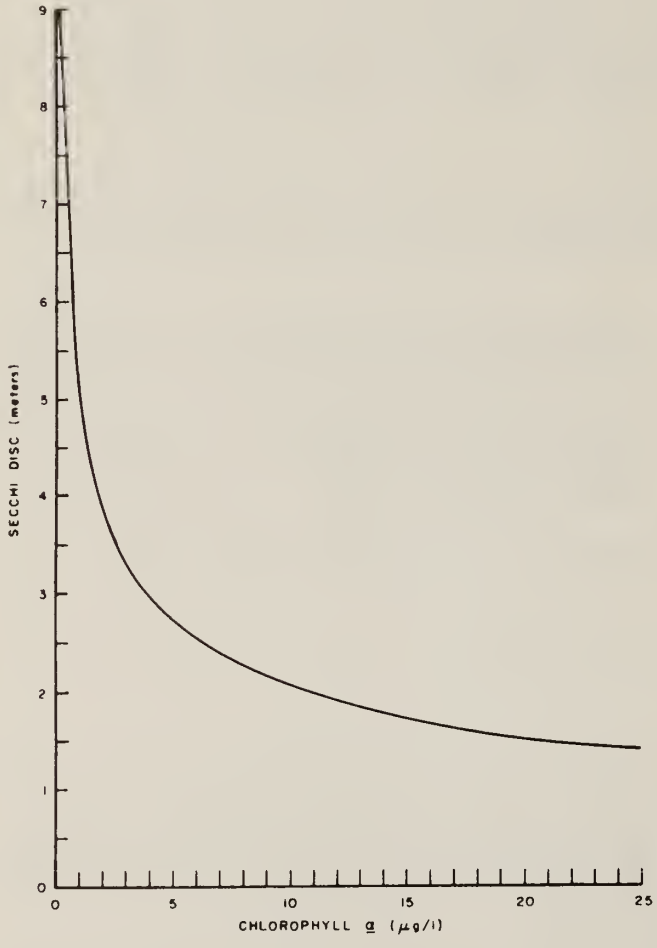

Figure 1: The relationship between Secchi disc and chlorophyll a for and a number of other well-known recreational lakes in the province. All data are seasonal means.

During the last three years, the mean yearly Secchi disc reading has remained almos constant, indicating a stable lake condition. It is recommended that participatio in this program be continued to ensure that this condition persists.

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Ontario

Ministry of the Environment

TALLAN LAKE

Chandos Twp., Peterborough County

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

e "Self-Help Programme" was initiated in 1971 in response to requests for water quality rveys from concerned cottagers on many recreational lakes throughout the Province. evious experience indicated that the enrichment status of a lake can be estimated latively easily by using Secchi disc readings and chlorophyll a concentrations (the een pigment in algae) to give an indication of water clarity and algal density re- ctively. (A more detailed explanation is provided in the publication on Eutrophication, ich may be obtained from the address listed below). Volunteers are supplied with mpling kits, which includes a Secchi disc, a water sampler, bottles and instructions. rticipants are asked to take Secchi disc readings and collect water samples biweekly ring the ice-free period of the year. The water samples are shipped to the nearest nistry of the Environment laboratory facilities where they are analyzed for chlorophyll a. The true value of the programme is only realized if it is continued for a number of rs in order to define longterm trends.

sed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in coloured lakes have been grouped into approximate ranges to indicate the status of richment.

	Secchi disc (S.D.) (meters - m)	Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l
riched	0-3 m	high algal densities 4 ug/l or more
derately enriched	3-5 m	moderate algal densities 2-4 ug/l
enriched	5 m or more	low algal densities 0-2 ug/l

ble 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Tallan Lake

te	Stn. - A S.D.	Chloro. a	Stn. - B S.D.
y 17	3.5		3.5
n 7	4.0		2.8
n 21	4.0		4.5
l 7	4.5		4.0
l 20	5.0		5.0
g 9	3.5		3.5
p 12	4.8		4.3
p 29	3.5		5.5
t 11	4.0		4.0
an	4.1		4.1

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

Variations occurred in the Secchi disc readings at both stations during the sampling period, however, no trend was apparent. Based on the seasonal mean for this parameter, Tallan Lake would be considered moderately enriched, characterized by a moderate degree of water transparency. There is no apparent difference in lake quality between the two locations sampled.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from

Year	Stn. - A S.D.	Chloro. a	Stn. - B S.D.
1971			
1972			
1973			
1974			
1975			
1976			
1977	4.1		4.1
"			

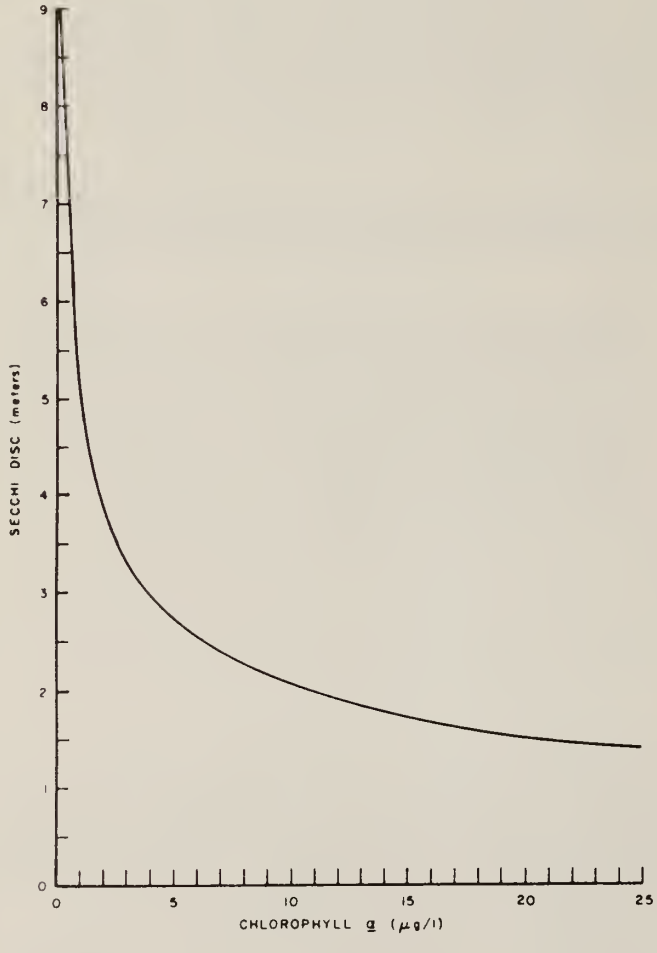

Figure 1: The relationship between Secchi disc and chlorophyll a for Tallan Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

Due to the absence of chlorophyll a data it is not possible to plot Tallan Lake on the above curve, to determine its enrichment status relative to other Southern Ontario lakes. Continued participation in this program will enable a more accurate assessment of the lake's tropic status to be made, and long-term lake trends to be monitored.

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Ontario

Ministry of the Environment

TOCK LAKE

McClintock Twp., Provisional
County of Haliburton

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

e "Self-Help Programme" was initiated in 1971 in response to requests for water quality rveys from concerned cottagers on many recreational lakes throughout the Province. evious experience indicated that the enrichment status of a lake can be estimated latively easily by using Secchi disc readings and chlorophyll a concentrations (the een pigment in algae) to give an indication of water clarity and algal density re- ectively. (A more detailed explanation is provided in the publication on Eutrophication, ich may be obtained from the address listed below). Volunteers are supplied with mpling kits, which includes a Secchi disc, a water sampler, bottles and instructions. rticipants are asked to take Secchi disc readings and collect water samples biweekly ring the ice-free period of the year. The water samples are shipped to the nearest inistry of the Environment laboratory facilities where they are analyzed for chlorophyll . The true value of the programme is only realized if it is continued for a number of ars in order to define longterm trends.

sed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in coloured lakes have been grouped into approximate ranges to indicate the status of richment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
riched	0-3 m	high algal densities	4 ug/l or more
derately enriched	3-5 m	moderate algal densities	2-4 ug/l
enriched	5 m or more	low algal densities	0-2 ug/l

ble 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Tock Lake

te	Stn. - Main S.D.	Chloro. a
/ 7	6.0	
/ 24	6.5	
g 14	7.5	
p 1	5.3	
an	6.3	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

Since Tock Lake was sampled only four time in 1977, it is difficult to obtain a reasonably accurate assessment of the lake's trophic status. Based on the mean of the available data, Tock Lake would be considered unenriched, characterized by a very high degree of water transparency.

DE 0976 12/77

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Tock Lake in 1976 and 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973		
1974		
1975		
1976	5.6	2.6
1977	6.3	
"		

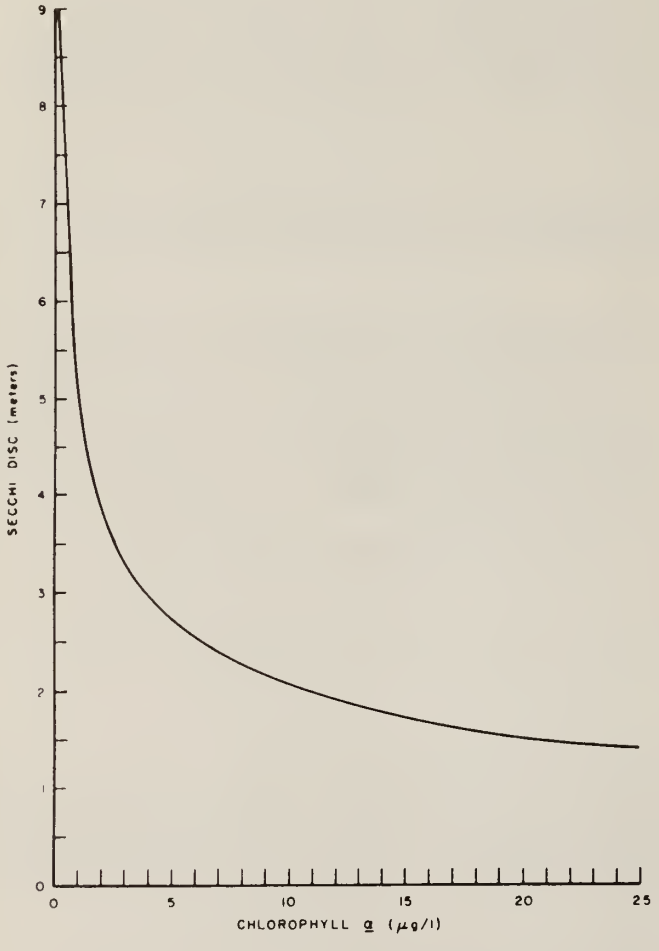

Figure 1: The relationship between Secchi disc and chlorophyll a for Tock Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The two years of available data is insufficient to base any conclusions on concerning trends. Continued participation in this program is required if sufficient data is to be obtained to examine long-term trends in lake quality.

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Ministry of the Environment

TWELVE MILE LAKE

Minden Twp., Provisional
County of Haliburton

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

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hment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
hed	0-3 m	high algal densities	4 ug/l or more
ately enriched	3-5 m	moderate algal densities	2-4 ug/l
iched	5 m or more	low algal densities	0-2 ug/l

l: Secchi disc (m) and chlorophyll a (ug/l) data collected from Twelve Mile Lake

Stn. - Main S.D.	Chloro. a
3	7.4
2	6.8
0	6.5
7	6.5
4	6.4
1	6.0
7	6.0
4	6.0
4	-
	6.5

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to to avoid misrepresentation.

The Secchi disc readings varied from 7.4 to 6.0 meters during the sampling period. The greatest measurement of water transparency occurred in May, followed by a gradual decline during the remainder of the sampling period. Based on the seasonal mean for this parameter of 6.5 meters, Twelve Mile Lake would be considered unenriched, characterized by a very high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Twelve Mile Lake from 1972 to 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972	5.9	1.2
1973	6.3	1.8
1974	6.0	1.0
1975	6.9	2.5
1976	6.5	1.7
1977	6.5	

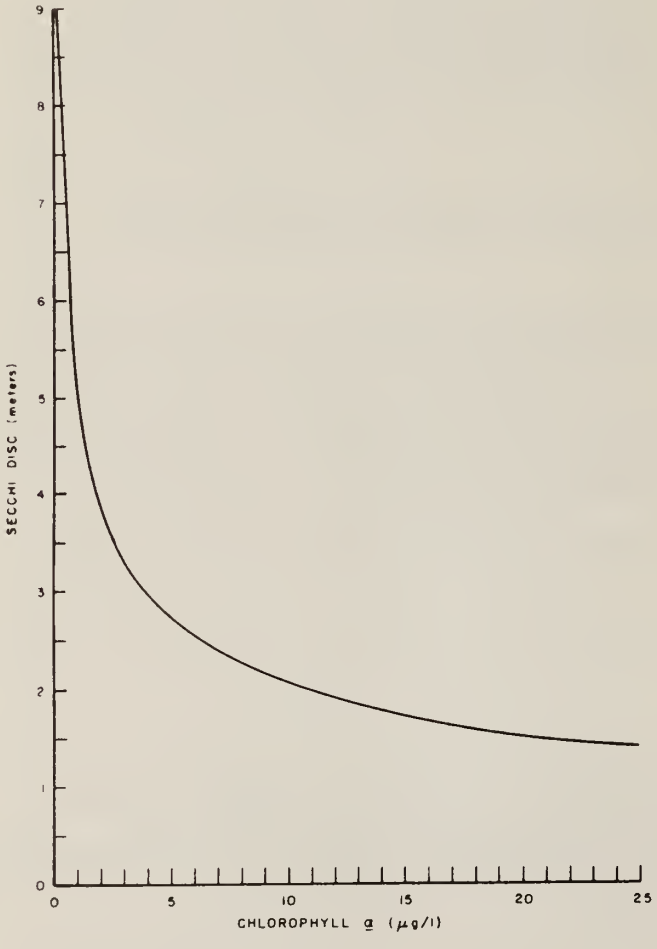

Figure 1: The relationship between Secchi disc and chlorophyll a for Twelve Mile Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The yearly variations in the mean seasonal Secchi disc reading, outlined in Table 2 have been minimal and reflect natural annual fluctuations. The existing data indicte that the tropic status of Twelve Mile Lake is stable, and it is recommended that ths program be continued to ensure that this condition persists.

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Ministry of the Environment

WALKER'S LAKE

Twp. of Lake of Bays, District Municipality of Muskoka.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

e "Self-Help Programme" was initiated in 1971 in response to requests for water quality rveys from concerned cottagers on many recreational lakes throughout the Province. evious experience indicated that the enrichment status of a lake can be estimated latively easily by using Secchi disc readings and chlorophyll a concentrations (the een pigment in algae) to give an indication of water clarity and algal density re- ectively. (A more detailed explanation is provided in the publication on Eutrophication, ich may be obtained from the address listed below). Volunteers are supplied with mpling kits, which includes a Secchi disc, a water sampler, bottles and instructions. rticipants are asked to take Secchi disc readings and collect water samples biweekly ring the ice-free period of the year. The water samples are shipped to the nearest nistry of the Environment laboratory facilities where they are analyzed for chlorophyll The true value of the programme is only realized if it is continued for a number of ars in order to define longterm trends.

sed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in coloured lakes have been grouped into approximate ranges to indicate the status of richment.

	Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
riched	0-3 m	high algal densities	4 ug/l or more
derately enriched	3-5 m	moderate algal densities	2-4 ug/l
enriched	5 m or more	low algal densities	0-2 ug/l

ble 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Walker's Lake

te	Stn. - Main S.D.	Chloro. a
n 26	8.3	
l 10	7.3	
g 21	6.0	
an	7.2	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

Since Walker's Lake was sampled on only three occasions in 1977, it is difficult to obtain even a reasonably accurate assessment of the lake's trophic status. Based on the mean of the available data, Walker's Lake would be considered unenriched, characterized by a very high degree of water transparency.

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Walker's Lake from 1974 to 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973		
1974	6.4	1.6
1975	5.6	1.6
1976	5.4	2.6
1977	7.2	

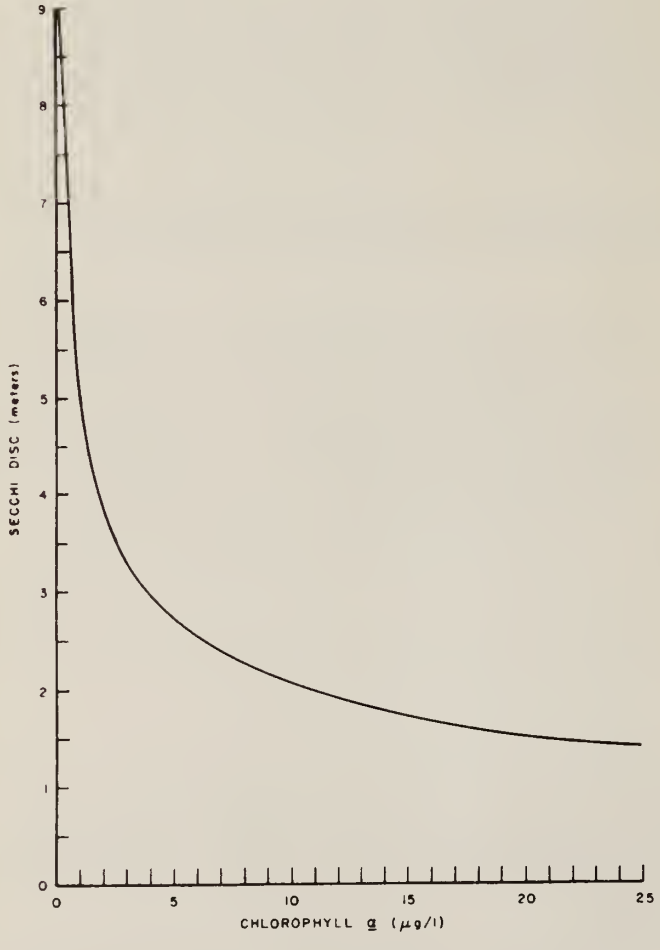

Figure 1: The relationship between Secchi disc and chlorophyll a for Walker's Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The 1977 data is insufficient to base any conclusions on regarding the apparent incea in lake transparency that occurred between 1976 and 1977. It is strongly recommend that participation in this program be continued, with an increased sampling frequeny, in order that trends in the quality of Walker's Lake may be monitored.

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Ministry of the Environment

WASEOSA LAKE

Town of Huntsville, District
Municipality of Muskoka.

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

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veys from concerned cottagers on many recreational lakes throughout the Province.
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chment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
ched	0-3 m	high algal densities	4 ug/l or more
rately enriched	3-5 m	moderate algal densities	2-4 ug/l
riched	5 m or more	low algal densities	0-2 ug/l

e 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Waseosa Lake

	Stn. S.D.	Chloro. a
26	5.5	
10	5.3	
24	5.0	
14	4.5	
28	5.0	
11	5.0	
	5.1	

The filters used in chlorophyll a analysis caused a problem which resulted in some erroneous analytical data. The chlorophyll a data have been deleted from this year's report to avoid misrepresentation.

The Secchi disc readings exhibited minimal variation during the sampling period, ranging from 4.5 to 5.5 meters. Based on the season mean for this parameter, Waseosa Lake would be considered unenriched, characterized by a high degree of water transparency

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from Waseosa Lake in 1974, 1975 and 1977.

Year	Stn. - Main S.D.	Chloro. a
1971		
1972		
1973		
1974	4.2	2.8
1975	4.1	5.2
1976	-	-
1977	5.1	
"		

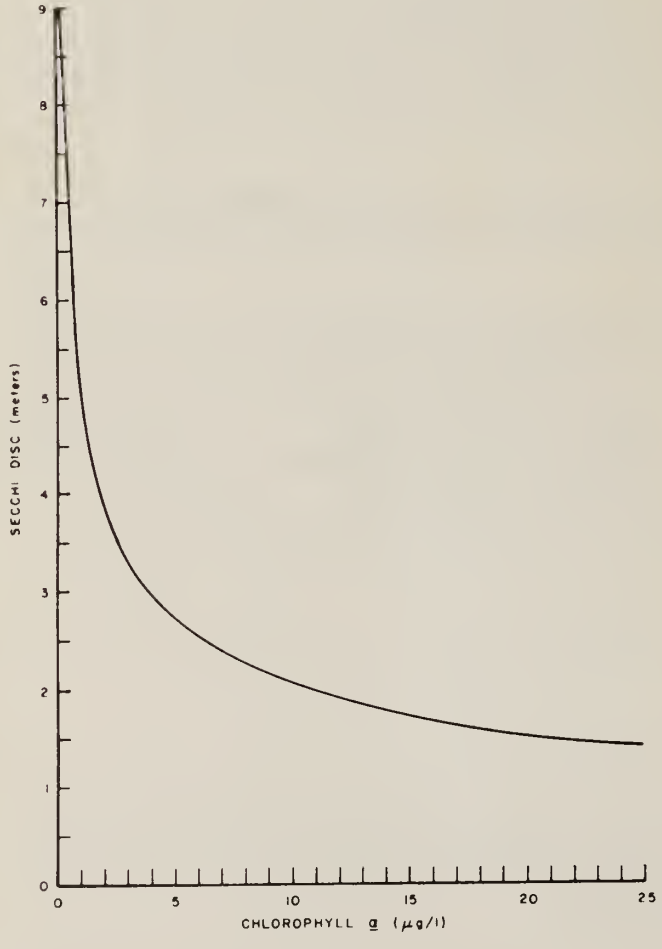

Figure 1: The relationship between Secchi disc and chlorophyll a for Waseosa Lake and a number of other well-known recreational lakes in the province. All data are seasonal means.

The yearly variations in Secchi disc readings outlined in Table 2 are attributable partly to natural annual fluctuations. Continued participation in this program is required to determine any long-term trends in lake quality.

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Ontario Ministry of the Environment, Central Region, 150 Ferrand Drive, Don Mills, Ontario, M3C 3C3 (416) 424-3000, Att'n. Mr. R. Shaw

Ontario

Ministry of the Environment

WOLF LAKE

Anstruther Twp., Peterborough County

SECCHI DISC-CHLOROPHYLL a SELF-HELP PROGRAMME - 1977

ıe "Self-Help Programme" was initiated in 1971 in response to requests for water quality ırveys from concerned cottagers on many recreational lakes throughout the Province. ·evious experience indicated that the enrichment status of a lake can be estimated ·latively easily by using Secchi disc readings and chlorophyll a concentrations (the ·een pigment in algae) to give an indication of water clarity and algal density re- ·ectively. (A more detailed explanation is provided in the publication on Eutrophication, ıich may be obtained from the address listed below). Volunteers are supplied with ımpling kits, which includes a Secchi disc, a water sampler, bottles and instructions. rticipants are asked to take Secchi disc readings and collect water samples biweekly ·ring the ice-free period of the year. The water samples are shipped to the nearest ·nistry of the Environment laboratory facilities where they are analyzed for chlorophyll The true value of the programme is only realized if it is continued for a number of ·ars in order to define longterm trends.

sed on experience, mean annual Secchi disc readings and chlorophyll a concentrations in coloured lakes have been grouped into approximate ranges to indicate the status of richment.

Secchi disc (S.D.) (meters - m)		Chlorophyll a concentration (Chloro. a) (micrograms per liter - ug/l	
riched	0-3 m	high algal densities	4 ug/l or more
derately enriched	3-5 m	moderate algal densities	2-4 ug/l
enriched	5 m or more	low algal densities	0-2 ug/l

ble 1: Secchi disc (m) and chlorophyll a (ug/l) data collected from Wolf Lake

te	Stn. - East Side S.D.	Chloro. a	Stn. - West Side S.D.
y 23	5.5		6.0
l 10	4.5		4.5
an	5.0		5.3

e filters used in chlorophyll a analysis caused a problem which resulted in some oneous analytical data. The chlorophyll a data have been deleted from this year's port to avoid misrepresentation.

sufficient data was collected to allow a meaningful conclusion to be reached.

E 0976 12/77

Table 2: Summary of mean values for Secchi disc (m) and chlorophyll a (ug/l) data collected from

Year	Stn. S.D.	Chloro. a
1971		
1972		
1973		
1974		
1975		
1976		
1977		
"		

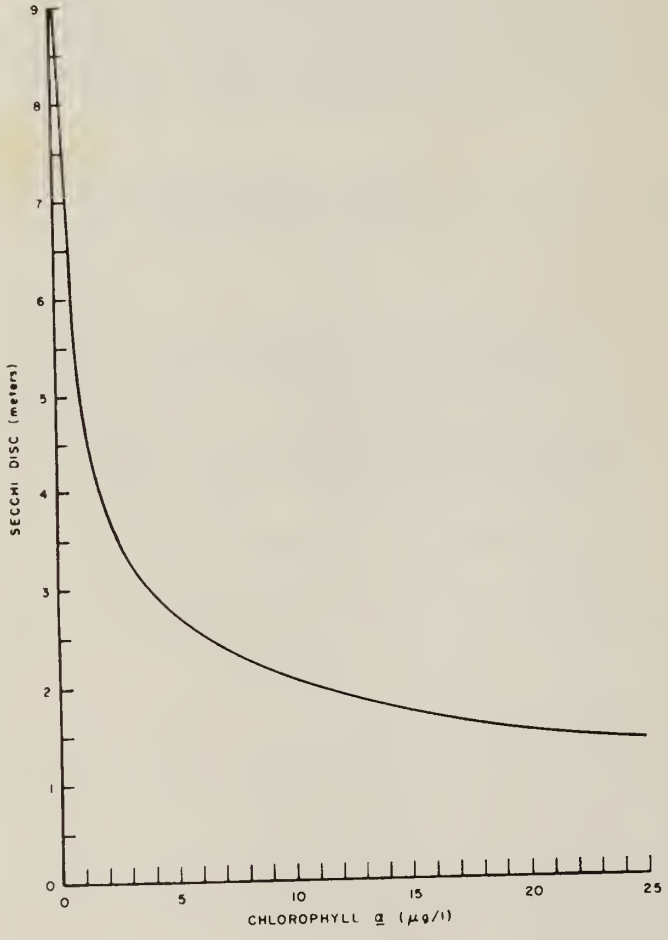

Figure 1: The relationship between Secchi disc and chlorophyll a for and a number of other well-known recreational lakes in the province. All data are seasonal means.

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